

EARTH GARDEN

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- PEOPLE & LAND
- HENS & PEAFOWL
- GOATS AGAIN
- BASIC BEEKEEPING

- PIONEER PISE
- MIRACLE PUMP
- ABOUT COMFREY
- THE NEARINGS

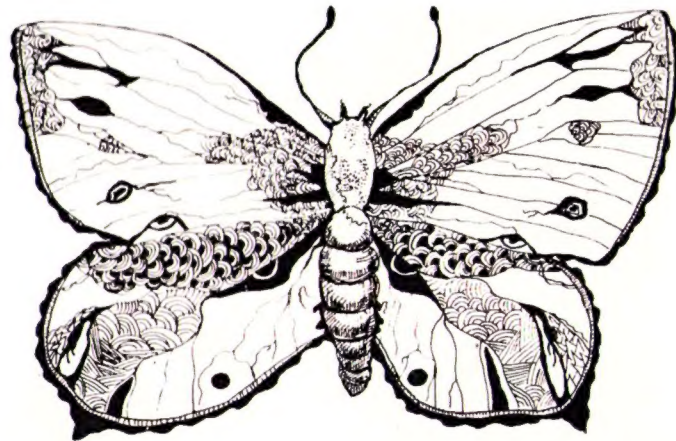
No 16

**A LYTEL HERBALL — PARTE II: LAVENDER,
WORMWOOD & YARROW, ORDERING THE HERB
GARDEN**

\$1.70

OCTOBER, 1976

SPRING



And then again he turneth to his play,
To spoyle the pleasures of that Paradise;
The wholesome Saulge, and Lavender still gray,
Rank-smelling Rue, and Cummin good for eyes,
The Roses raining in the pride of May,
Sharpe Isope, good for greene woulds remedies,
Faire Marigolds, and Bees-alluring Thyme
Sweet Marjoram, and Daysies decking prime.

Coole violets, and Orpine growing still,
Embathed Balme, and cheerful Galingale,
Fresh Costmary, and breathful Camomile,
Dull Poppie, and drink-quickenning Setuale,
Veyne-healing Vervein, and head-purging Dill,
Sound Savoryie, and Basil hartie-hale,
Fat Colworts, and comforting Perseline,
Colde Lettuce, and refreshing Rosmarine.
EDMUND SPENCER, Muioptmos;
or The Fate of the Butterfly, 1590



Earth Garden, established in 1972, presents a range of natural lifestyles. It is intended as a key to sources, practical ideas, alternatives and self-sufficiency.

It is concerned with non-polluted living and growing, the back-to-the-earth movement, surviving in the city, the bush, food and diet, and the inner changes which follow when you are in tune with nature.

Let us lead you up Earth Garden's path to the good life.

We don't have advertisements in Earth Garden. That way we're not influenced by any vested interests. Books, places and products recommended are those we think relevant.

Edited and published by Irene and Keith Vincent Smith.

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EARTH GARDEN No.16

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earth people write:

Dear Irene and Keith,

Was happy to read page 5 of EG14, **Gardens for All**. Here we are, many single people living in flats and a small group have got together for a "community garden". At present we have tomatoes, okra, winged beans, Chinese cabbage, egg-plant, capsicum, corn, cucumber, marigolds and hibiscus — and the pleasure and therapy that goes with it.

Sincerely
Margaret
Port Moresby, PNG

Dear Irene & Keith,

We have been kept busy, digging house-stumps and foundations on our half-acre by the beach at Bribie Passage. At last we've found our place of happiness — good growing, sandy loam, lots of trees and birds. We feed quite a few magpies and butchers and no neighbours for half-mile, or likely to be. No power, either. We've put a well down that has 18ft of good water and a windmill up that we bought from Home Hill for \$10. We did all the taking down, but there's lots up there should anyone else be interested.

A few small repairs and it was going again as good as ever. We have a problem with sandflies, though. Has anyone any clues with harmless sprays? We would love to hear.

Yours sincerely
Joan Friedman
68 Sanderling Street, Inala
Queensland, 4077

Dear Keith and Irene,

At long last we are moving out to our nine acres. Have been building a house, or rather, the first section of it, for months, weekends only. We are building with concrete blocks, but will use mudbricks on some of the interior walls and outside sheds eventually.

We have four black sheep and eleven cows with calves at the moment. The sheep have just been shorn and are providing much wool for spinning and rug weaving. I have found the solar hot water articles very helpful and interesting. That's another project on the long list of jobs, like tanks, plumbing, etc.

That's enough for now. Would like to hear from anybody Earth Garden orientated from this end of the world.

Yours faithfully
Rod and Vic Pottage
6 Osborne Court
Warrnambool, Victoria, 3280

Dear Earth Garden,

Your magazine is most inspiring and I spend a lot of time reading all my back issues, putting some ideas into practice and keeping others firmly in mind for the future.

I have recently bought a hand-operated ice cream churn from **Cooking Co-Ordinates** in South Yarra (477 Chapel Street). For anybody else who wants to avoid buying the commercial junk which passes for ice cream, I can thoroughly recommend it. It is not a chore to make the ice cream and the results are beautiful and wholesome. It costs about \$35.

Many thanks
Carolyn Guy
Yarram, Victoria

Dear Keith and Irene,

I hope you are all happy and well and enjoying the "good life". We moved to our "block" just before Christmas and loved the conservation issue (EG13), as we're living in an area that's being raped by the chip industry. We are very determined to regenerate and work out a balance with the bush. It will be quite a challenge, I feel, and made more difficult by the apathy of the local folk.

We are newcomers to country life, both in the late 30s, with two small children, with no complaints about our life up till now, but how we almost regret not having done this sooner.

We live in the "chook" pen and bathe in the river, which is now in flood. Our vege garden keeps us well fed. We have many native birds which assist in the garden and provide us all with superb entertainment. Our biggest frustration is trying to find the energy to read our books on herbs, compost, goats, etc. Our minds are in constant confusion at the fabulous things we can now follow up.

Just before we moved in, a goat strayed in and made herself at home. We were delighted and she has since presented us with twins, buck and doe. Consequently we have become very enthusiastic about acquiring a couple more of these affectionate, demanding animals. We are building a small mudbrick house and find a tremendous amount of satisfaction out of the simplest things, having experienced a modern home with all mod-cons. We feel we're living.

I'm amazed that satisfaction can be gained from spending a day washing by hand!

Peace and Happiness always
Alex and Leigh Podporin
Pambula, NSW

Dear Irene and Keith,

John is 33. I (Mary) am 30 and we have four children aged from five to ten. For years we've longed to get out of the rat-race, but two things held us back. (Money of course) and the fear that our city-born and bred children would hate it. So we compromised. We sold our house in Brisbane and shifted to a 15-acre property with a tiny old cottage on it just outside a medium-sized country town.

We have all the advantages of town life (if we want them) plus all the advantages and experiences of country life. We have ducks, chooks, geese, four cows and two beehives. We've planted dozens of fruit trees and started a vege patch. **THE CHILDREN LOVE THE LIFE**. So now we've got our "stepping-stone" on the market and when it's sold, we'll do what we've planned for so long — buy 100 acres or so in the ranges around Nambour, with the knowledge that we have all settled in well to our chosen way of life (all our relatives and former friends think we're quite mad).

The six months here have not been wasted. We've learnt to milk, to make our own bread, butter, cheese and beer, how **not** to buy a cow (our first attempt bolted and hasn't been seen since) and to deal with mastitis and three-day sickness. Also, shortage of money has forced John to learn how to do all repairs on the car, tractor and pumps.

Peace & love
John, Mary, Helen, Stephen,
Michael & Gordon Thiry
Bundaberg, Queensland

Dear Keith and Irene,

I realise that this is going back in history, but in EG13, the map of Australian National Parks left out four major Northern Territory parks totalling 16,850 square miles. All were mentioned in Woodward's report on Aboriginal land claims as immediately available land and the report was accepted in principle by the Federal Government.

If the National Parks, rather than suitable pastoral or traditional land, are handed over, the parks have little chance of being replaced, if any, and all are biologically important. What interests me is why they were left out, and whether other people outside the NT are aware they were.

Best regards, BL
Bolton, Alice Springs
Northern Territory

This map was prepared by the Australian National Parks and Wildlife Service. We hope this large hunk of Australia which you mention will be on it soon. — K & I.



Jennifer spins on our front verandah.



The kids — Elise, 6, Bindi, 5, and Andrew, 4

Home at Marananga

BY JOHN & JENNIFER BLACHER

Pastor Kavel and his first group of Lutheran emigrants arrived in South Australia in 1838, to escape the fearful persecution of Frederick Wilhelm III, King of Prussia. Under the guidance of George Fife Angas and his son John Howard Angas, later settlers established the small towns of Bethany, Angaston and Nuriootpa — all in the Barossa Valley. After 1847 most arrivals took to grape-growing, and the wine from the area has since become well-known all over the world.

We approached Marananga with some apprehension in September 1973.

We were leaving behind most of the things we had been taught were important — a brick veneer house on a small block in a Melbourne suburb, close to shops, schools and railway-line, etc. Yet all this seemed unimportant as we felt sure we could feel happier in a rural, uncluttered place, where we could think and enjoy life.

In Melbourne we had struggled for three years to establish a business, sacrificing all else to make it work, but it always seemed to be paying everyone else but us. An idea was forming, still very foggy, but . . . how about living, working, and selling all from the same place?

Then a friend arrived one day, clutching EG2 and muttering "self-sufficiency". He carted us off to see someone called Neil Douglas and to listen to him talk — and thereby caused us to be more definite about our

lives. Our eldest daughter Elise still remembers Neil as "the man who gave me a flower", and we think this sums him up well.

It was from all that that we moved to 14 acres in the Barossa Valley.

Our block, quite immense to our town-trained eyes, is gently undulating, tucked in to a valley within the Barossa close to Seppeltsfield. Our land is treeless, except for two large red gums beside the house. Most of the timber had obviously been used for fencing, trellising vines and building the thatched-roof shelters which previously housed animals, mostly pigs.

We have four huge shelters and a lovely stone barn with galvanised iron workshop attached. About five acres were covered with vines, and one large paddock can be used for grazing or cropping.

The house itself was built in 1901 from local stone and is the usual four-roomed settler's home style, with a verandah along the front and back. It has the inevitable more recent extension on the side and the back verandah has been walled-in for added protection from summer heat and winter winds.

Next year we plan to renovate the whole place as we have lived here long enough now to know just what we require. We love the open fireplace in the lounge. A real fire adds so much warmth and atmosphere to the cold evenings and we don't mind clearing it out as the

ashes are so useful in the garden.

We have an electric stove in the kitchen, but we also use the old wood stove for warmth and to keep food warm. The plumbing and electrical wiring in the house is really antiquated. For instance, we can't use a tap when someone is having a shower, lest a piercing scream reminds us to "turn it off". White ants have had many a feast on the woodwork, but the house was treated before our arrival and before there had been too much damage.

There were so many things to do when we arrived that we just didn't know where to start. The first year was a jumbled confusion of starting a garden, introducing chooks, chasing escaping sheep and planting 1,000 vines which the previous owner had left behind.

We had some qualms about those vines, as we didn't intend to set ourselves up as vigneron, but since the five acres of vines already planted were doing pretty well we decided to give the rootlings a try. In those early months too we had an endless string of friends, relatives and neighbours visiting us to see why the Blachers had chuckled in the conveniences of suburbia to go to "live in a shack out in the sticks".

Since our house is on a stoney rise, we found that we would have to build up a vegetable garden virtually from scratch. John spent weeks digging trenches and filling them with fowl manure and at this time we found that previous owners had kept a couple of hundred pigs on the place, so you can imagine that pig manure was in abundance.

This first garden produced beautiful carrots, caulis and peas, but in the summer months we found we were fighting a losing battle against the harsh drying winds and the hot sun. These factors led us to start another, more sheltered, garden closer to the house, which provides us with all the vegetables we need, plus some which we swap with neighbours for things we haven't got, like oranges, walnuts, and almonds.

When I saw how well John had done with his vegetable garden, I tried my hand at a herb garden and am slowly building it into a very useful part of my cooking. I want to add a few perfumed flowering herbs to the culinary herbs and hope to have a few pot-pourris in years to come. For now we find we use parsley, basil and chives nearly all the time, along with dill, marjoram and rosemary and several of the mints.

Sitting down to a meal of home-grown vegetables made us feel so gratified, that we tried our hand at keeping a few animals for meat. The four sheep we first undertook to keep spent most of their time trying to get out of the paddock, a feat they achieved on several occasions. One time they were happily grazing in a neighbour's vineyard for a couple of days before we even found them, and although they had put on some good condition it was hardly fair on the vines.

Pigs, we found, were a far better proposition. John became quite attached to the snuffly creatures, and we even keep one as a pet these days — Honk Honk. We obtained two piglets, about a month old, and grew them mostly on hammermilled barley (traded from a neighbour for welding jobs), until they were about seven months old. One pig we sold at the market for \$79, which of course paid for keeping them, and the other was butchered for us (we somehow couldn't face slaughtering a pig).

We became quite adept at slaughtering and butchering sheep — the kitchen looked like a butcher's shop. The children were, of course, fascinated by the

whole procedure. When our chooks are two years old we have a killing day, and do half a dozen at once, before putting them into the freezing compartment of the fridge.

When friends bought a freezer, we found we were able to kill a beast between us, and then keep our meat in their freezer. I don't know whether all this blood and gore got to us, but nowadays we don't eat meat nearly as much as we used to — the kids don't seem to like it at all, and we can take it or leave it, although occasionally we have delicious barbecued steaks, cooked on the lounge fire.

Of course, it didn't take long for our money to run out, and the problem of earning a living reared its ugly head. John tried to find work locally but soon we (and his aching back) decided that this area must be the last bastion of feudalism, as far as pay for working goes. Only recently the big names of winery businesses have formed the Barossa Barons.

The first year I picked grapes I discovered that female labour was paid less than male even though the females usually picked faster and better. Last year, though, equal pay came into being, but the wage is far below any other industry we can think of.

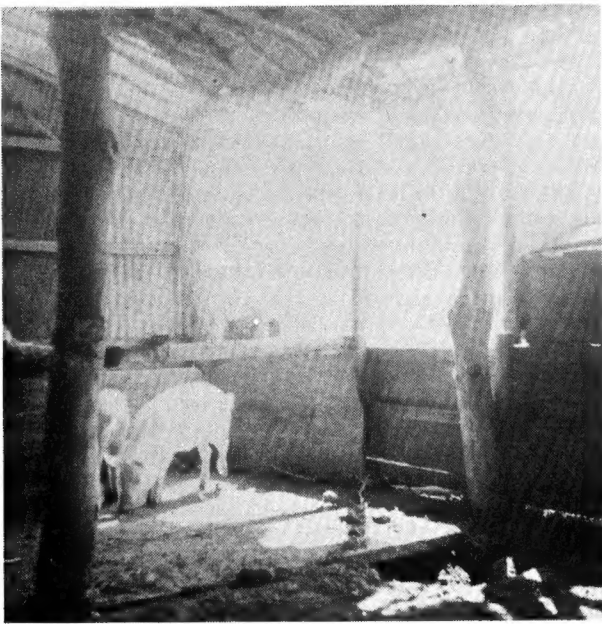
However, John now decided to go back into the decorative metalwork business we had shunned since arriving in this new environment.

The long break from work seemed to do us a lot of good, for we saw clearly the mistakes we had previously made, and were able to correct these. Designs flowed freely with all the distractions removed, but the greatest surprise to John was that with only half the effort, it all became profitable. In our second year we found that we could survive on about thirty hours in the workshop per week — the rest of the working hours being mainly devoted to planting and caring for young trees and garden, trellising and training our young vines, and all the other routine chores that go with this way of life.

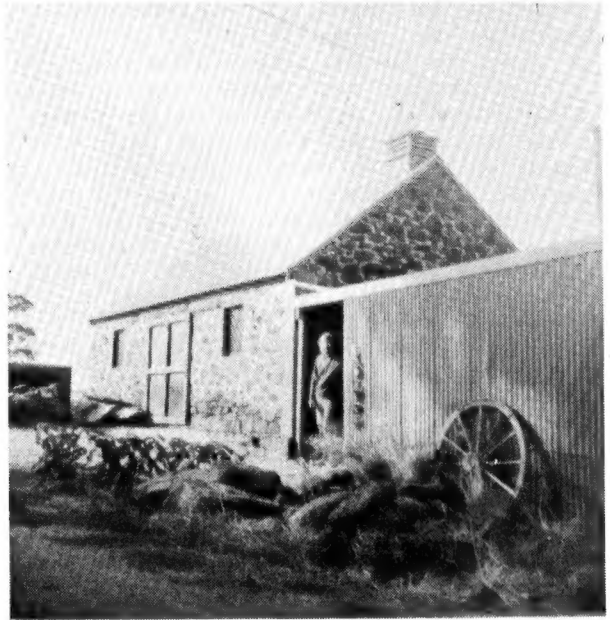
Since the Barossa Valley has a booming tourist trade, one of our ideas was to cater for this. We set to work and restored a lovely old stone barn we have, well situated close to the road. We didn't want the place to be all spic-and-span, but it needed some attention, so we painted the inside walls pale yellow, and the lintels and woodwork dark brown. We fitted amber glass to the windows, and John made criss-cross grills to cover them. We painted the galvanised iron roof terra cotta, and left the original stone as it was. John replaced the old galvanised iron door with a beautiful oregon timbered and iron studded one, and we erected a cupola and weathervane up on top. The workshop is directly behind, and attached to, the barn, and we painted the galvanised iron of the walls terra cotta too. Now that I read this over it sounds like a carnival, but actually we were amazed at the way the place blended into the red earth colour which you find here.

We found out that the tourists are not for us, except perhaps in small doses. Having them come to the property left us with no time to ourselves at all, so we find it better to sell to a few chosen galleries in Adelaide and be present at one or two crafts shows and markets a year.

Life wasn't rosy, as many things were sent to try us — the first being a plague of fleas. It was terrible. The kids would come to us in the morning with little red lumps all over them, and it was impossible to say "don't scratch". After a few days we all had scabs in spite of, much daubing with calamine lotion. John and I would



Our meat pigs under their thatched shelter.



John at the door of his workshop attached to renovated barn.



Andrew on the steps of our underground cellar.



Another of the many thatched sheds and newly-planted tree.

wake in the night, turn on the light, and catch three, or four of the blighters in our bed.

We spread powder, and various herbs, and eventually sprayed, and the plague finally left us — to be replaced by mice. The blessed little things used to scamper under the door as we sat in the lounge in the evenings, and scratch away under our chairs.

One visitor swore the mice used the kitchen floor as a skating rink! Out where we kept the feed for the chickens and pigs, the rats ran amok. It was a constant battle for weeks.

When they finally died out we had a wave of little black beetles. These got in through the tiniest cracks, flew into the lights, knocked themselves out and fell to the ground. Even when the house was in darkness they flew about in the kitchen before crashing downwards — first job in the mornings was to sweep them all out the door — piles of them.

Next came those lovely big moths with eyes on their wings, and then a huge mixture of flying creatures came upon us. I'm afraid I was just thinking that I couldn't live with all these insects, when their cycles apparently came to an end or something, and we haven't seen quite a huge gathering of creepy crawlies since.

We keep about 14 hens and a rooster, and except when a neighbour's cat stirs them all up a bit, we find they lay exceedingly well. I sell the eggs to a few people I know, but the funniest sale was when, one day, passing tourists noticed the hens and asked John if they could buy some eggs. John sent them off happily clutching their goods, and it wasn't till tea time that I noticed that half a dozen hard boiled eggs I had previously prepared had gone with the tourists!

Before we became a bit tired of goats milk we kept a goat called Julie. She was left to us by friends (aren't all goats?), and was a brown and white French Alpine goat. One time she got bloated, (I didn't know goats' tummies could be upset by anything, but I suppose a pile of old radishes could upset the fittest of animals). We rang an old guy, who had kept goats, for his advice, and he told us we should get some eucalyptus oil on to her tongue, which would make her chew and help her rid herself of the wind. Also he suggested trying to dose her with some bicarbonate of soda, but this turned out to be most difficult. His last idea was to tie a stick in her mouth to keep her mouth open, and to keep her chewing. We tried all three of these ideas, and jointly they worked, and Julie quickly became more comfortable.

When first Elise and then Bindi began school, we became more involved with community. There are several things in the "school system" that we don't altogether agree with, and we are pleased to see that other families in the area are also questioning departmental policies. The school also opened up some social life for apart from the monthly Welfare meetings and school council meetings, we were now invited to the annual barbeque and picnic — both quite pleasant outings where we met local families and children.

We have found that as a rural area the Barossa Valley is quite unique in several ways. It does not have one large town as its centre, but half a dozen small towns along its length. These are only a few miles apart, they are fiercely independent, with their own school bands, football teams etc.

The German Settlers' influence predominates everywhere — the first thing you notice are the common

names of Linke, Schultz and Roennfeldt, with some very musical ones like Simplerdorfer, Saegenschnitter and Danglemeyer thrown in for good measure.

Most of the houses are built of squared-off field stone, and stand as monuments to the independence and diligence of the early Lutheran settlers. Another remarkable thing about the area is its economic stability — a rare thing in today's rural scene. This is probably due to the variety of produce grown here — the average property is well under 100 acres, with some vines, some orchard, and the remainder grazing/cropping. Also many farmers make sidelines of dairying, pigs and poultry, with the odd market garden here and there.

There are always clearing sales and auctions going on, at which one may pick up a real bargain. We have collected a buggy, sundry harness etc, and a little forge in perfect order imported from "The Buffalo Forge Co, New York", along with a set of handmade blacksmith's tools. The most recent purchase we made was eight mallee hurdles — the pioneer version of the modern farm gate. Made from mallee saplings, the two verticals at either end are drilled with a row of holes about one inch in diameter and 8 inches apart. The ends of the horizontals are whittled down to a drive-in fit, and then nailed. The standard 45° brace is then nailed on. As we were proudly carting them back to the van, an old-timer croaked at us "two pounds a pair I used to make 'em for, two pounds a pair ..."

As you can see we are not perhaps the pioneering type of Earth Garden people. We have a use for a washing machine, television and telephone. But we do try to do things the happiest and healthiest way for us.

I've done a lot of preserving, (we can buy well at nearby orchards), and how rewarding is that feeling when I look at the shelves of coloured fruit and vegetables down in the cellar. It's also comforting to know I can spin fleece (again bought from local farmers), and knit our own jumpers.

We get great satisfaction sitting to a meal of homegrown meat and vegetables, seasoned with our own herbs. We do have both milk and bread delivered from the local town of Tanunda, but we bake extra bread at the weekends, (delicious when eaten with the mett-wurst that is famous in the Valley.) We are trying to compromise, and to be as self-sufficient as we can.



Herb and vegie garden outside the biggest thatched shed — 60ft x 24ft.

BEWARE THE BYE-LAW

BY JOHN J. ALDERSON

One could have been forgiven for thinking that the "back-to-the-earth" movement would have been welcomed by almost everybody in view of the long lamenting of the "drift from the land" and cries for "decentralisation".

But when it arrives a vigorous effort is being made to step on it and squash it.

There have been certain moves in the past, such as bye-laws regarding piggeries and poultry-farming and the like, that I have personally viewed with suspicion, as I have viewed the proclamation of the various Uniform Building Regulations which seemed designed to make certain that everybody lived in decent respectable brick or weatherboard houses built by registered tradesmen.

They may be, and have been, defended in many quarters, and in any case have been ineffectual in preventing people, at least in the country, from building in such unorthodox materials as mud-brick or stone. However, in many shires that has now changed and a whole series of Interim Development Orders have been adopted. What the final development orders will be is anyone's guess.

Effectively the Interim Development Orders make it possible for Shire Councils to refuse permits to build on blocks of less than a certain size. This seems absolute and is without regard to land-use. When it is realised for instance, that the minimum sized block of land for which a building permit will be issued in the Shire of Kara Kara is 50 ha, it will be seen that they have no intention of allowing any intensive land use at all, and are determined that there shall be no increase in the density of population. The Councils intend, in other words, to make certain that the big land-holders retain the balance of political power.

Anyone who has any real knowledge of effective land-use will know that no two people can

possibly handle 50 ha, and furthermore the produce of 50 ha is vastly too much for one family and can only be eaten up by the use of high capital investment in the shape of machinery where one has an invisible workforce which must be paid. For that matter I personally cannot imagine how that acreage can be handled without machinery, which is hardly an alternative lifestyle most of us are seeking.

As yet, as far as I know, these Development Orders have not been tested in court. It is my view, but I am not a lawyer, that the possession of any Crown Grant of land automatically entitles the holder to the right to live thereon and build thereon, indeed early regulations made the living thereon mandatory and the obligations and privileges attached to land titles are not easily got rid of. This brings to mind a certain loophole discovered in the early days, and never blocked. A man could select four blocks of land and build a house where the four joined and legally live on all four blocks at once and hence be legally entitled to four blocks. I suggest the reverse could hardly be prevented.

In essence it would mean that two or more parties would have to buy the (lets work on the 50 ha area) 50 ha jointly and build a large house and live communally in the centre of the land area. This opens the possibility of working as a commune, or subdividing and each party working their own portion. The house could similarly, with alterations such as locking doors which would not require council permits, be actually flats or "semi"-detached. However this arrangement of living, either together, or in close proximity, would have big advantages in cost saving by only requiring one septic tank for example, and one water supply, one methane-gas generator, one electrical generator etc.

Of course there could easily be social problems, with the choosing of partners as important as the

choosing of a spouse (one may be more rational in the former though).

Voting rights for the council is another matter, but this differs considerably from Council to Council. Indeed I know of one where the owner does not get a vote because his mother-in-law who lives with him is thus legally the tenant, and the tenant with that Council has a vote and not the rate-payer! Usually partners are allowed votes but it may depend on the property. Obviously, too much communal living is going to worry the big landholders who will have their grip on the Council eroded.

There is another loop-hole too. So long as some part of an old house remains, it may be repaired. It may only be one stump in the ground. Providing all building requirements are met a permit to repair such a house cannot be legitimately refused. However, Councils may have power to prevent sales in such cases, but I doubt it. The objection is to living on small acreages, yet I have an idea that Councils now take it upon themselves to prevent sales though I cannot see how they can legally do this.

The actual prevention of a new sub-division is one thing, but what I am speaking of is the sale of a small title. The first mining blocks opened in Victoria were 20 acres for example but there are even smaller titles about.

I personally think that soon even more drastic moves will be made against small-holders and back-to-the-earthers. A whole range of regulations relating to such things as water, sewerage, lighting, heating, keeping of animals, killing of animals etc, are possible, and likely.

The thing to do is start protesting loudly and long now. This is a determined effort to prevent small farms. Interestingly, they are being referred to contemptuously as "hobby farms". I suppose the moral is, that work is something you don't like, and if you don't like it, it's a hobby.

Look hard — but still leap!

TEXT AND DRAWING BY JILL RAYNER

Dare I write of the many pitfalls that lie in wait of would-be land lovers and liver, without sounding too pessimistic or negative?

Before I put pen to paper, please let me shout aloud that I believe positive thinking and optimism is the only attitude to have if any headway is to be made on that piece of land.

Over four years of tasting the sweetness of living on our own acres we've made our share of mistakes and had a good number of the setbacks that should be expected when venturing into unknown territory; the kind of mistakes and setbacks that go hand-in-hand with learning and gaining experience. I mentioned a few of these errors of the wayside in my second article for EG — *Getting it Straight!* You might even say that we've made some real humdingers — but we managed to wriggle out of them all eventually by some unstinted effort or other.

But during this time we have seen so many disasters happen around us (putting aside the magnificent success stories that I assure you do exist). I don't refer to the great comings-and-goings on the land scene, which I think are happening in most of the likely places or of the many young people who are getting great enjoyment and fulfilment out of distinctly temporary earth living.

I describe as "disaster" the great unhappiness and disillusionment experienced by the people, usually young couples on their own, who have attempted self-sufficient homesteading and have had to leave their land, sell up and return to their former lifestyles.

The causes of these disasters can, quite frankly, be put into a fairly good sized nutshell and by putting them down in black and white, there is a chance that it could be a forewarning of some use to somebody.

Old and fond readers of EG may be aware that Tasmania has been a very active scene for land buying in the past, mainly because some years ago land could be bought very cheaply (more on that later). And being more-or-less right in the middle of it, much has passed before our eyes!

The main problem has been that land *has* been bought cheaply. That is, cheap land. By that I mean the land itself, bought at very low prices, was more often than not, land that the farmer didn't want, land that didn't warrant a glance from "commercial" farmers, even for extra grazing land.

Why not? Because the land was poor. Now there's nothing wrong with poor land, there's nothing wrong in buying poor land — if you know what you're buying, if you know what to do with it when you've got it, and if you know how much you have to do to it to get anything from it!

It's all very well for the artist or craftsman who just wants to live pleasantly in the gum trees, or for the en-



vironmentalist who wants to conserve and nurture the bush. But for those of us going onto the land for the first time with the main aims of growing vegetables, fruit, trees, perhaps having animals — which means fencing and providing feed for them — there are so many other things than just "buying some land" that should be considered.

For, presuming that most of us are forced to buy cheap land (poor land) if we are to buy any land at all, sooner or later we come up against that enormous hurdle that goes hand in glove with coping with poor land — money to improve it and an almighty energy to do the work necessary, so that the land will eventually start to give you something.

Of course, things don't happen as dramatically as this. It creeps up on you as the months go by — like how long it takes you to "de-stone" the garden area before you can even start to think of mulching; or how to dry beans; or how much more expensive it is to fence a beautiful mountain slope than a flat or undulating paddock.

In other words, it takes a lot of money, a lot of time and a hell of a lot of patience to become any percentage of self-sufficient on poor quality land.

But the oddness of it is, that although it is the hardest, it can be the most satisfying and the most fun way of tackling the dream of self-sufficiency. And all the sadness is in seeing too many turning away before they've even given it a chance.

"A lot of money" means a regular income, *must* be organised (the dole is fine for emergency but definitely not enough to build a homestead). If it is intended that a small business will be organised from the farm eventually, then plans can be aimed towards this, but steady, in-coming money is essential in the initial years of building up the homestead and later in varying degrees to cover the purchase of things that can't be produced on the farm — tools, transport, building and fencing materials, animal feed that can't be produced at home and many other things.

One couple (or even a group) can only do so

much, no matter how eager or hard working they are. There will always be some things that will have to be bought with money! "A lot of money" also means that every cent that comes in which doesn't actually go in your mouth or on your back, usually disappears into the land one way or another.

"A lot of time" means you won't be self-sufficient in 12 months. Unless you're very, very lucky, it would probably take you two years before your garden is built up to a production that is anywhere near useful to supplying the house for most of the year. If you prepare the ground and buy the fruit trees immediately, it will take at least five years before you start to reap anything worthwhile. Similarly, if you set up a beehive it will take about two years to get anywhere near full production — all this without taking into account the learning and the inevitable fumbling of the beginner. It is necessary to have a view of the horizon. Because that's where it is. Not next week!

And finally, the "patience" which is the whole satisfaction, the whole point of it all, the whole joy of watching something grow under your hand, of seeing the land improve and blossom as you guide it, care for it, help it, and eventually reap the harvest.

The cheap land in Tasmania is the poor land, and the poor land, can give back if it is approached in the right way. Without a doubt, it is cheaper in time, money and patience to buy more expensive, better quality land right at the beginning, if you can afford it, where some of the land is already cleared and put down to pasture, where the fences are already up and only need maintaining, where there is a water supply in a dam or organised from a spring or river, where all the newcomer has to do is decide where he's going to put what, do it, and in 12 months he has a flourishing garden, a couple of calves to sell, and surplus eggs for the local shop — and in no way can you take away his satisfaction, his success or his joy in the "homesteading life".

But the chap who has to buy the poor land, if he has enough staying power, enough spirit to tackle the adversities and enough common sense to realise he's got to work damned hard, can get there too. For it's the man that builds the dream, not the land.

And on a more personal note, to the many people who have written to us in the past and are still writing to us in a regular trickle, please think twice before heading to Tasmania as a land of promise. The rock-bottom land price era is over, that is, the land that is cheap here now is just as cheap in other States. And from the experience of others, don't contemplate coming to buy land in Tasmania unless you specifically and truly want to become Tasmanians, which means you know a fair bit about the place and you know that's what you want. You will do just as well in your own territory as far as land prices go, without the necessity to battle with adjustments to climate, terrain, and that "far away from friends" feeling.

And please, no more letters to Greenvalley Farm — we left there for new acres a year ago and the postie's kind heart is still trying to keep up with all the mail sent to us there. Our new piece of land is even wilder and woollier — we're terrors for punishment!

Good wishes to all the beginners and all the newcomers. And I still say, as I did over 4 years ago, swallow hard and JUMP. I just hope I have made it a little clearer what you're jumping into!



Clydesdales

BY GEORGE COX

The breeding of Clydesdales is fascinating. However, it can be very disappointing and frustrating — which goes for breeding and showing any animals.

All horses are in demand, especially the top Clydesdales. These are very scarce. The top Clydesdales in Victoria would hold their own anywhere, but they tail off pretty quickly.

Our Clydesdales got down to a poor standard about 12 years ago, with no good breeding sires. Then, the importation from Scotland of 'Balwil Print' and 'Telstar' (a son of Balwill Print) improved the standard as well as broadening the hocks. It's very hard to find any of the prizewinners at the Melbourne Royal not related to these two sires.

However, we are now at the 'cross-roads' again, with no good breeding sire to take over. Some of the Show champions do not produce the goods at stud.

A few new breeders are taking on Clydesdales, but, like everything else, it's very hard to get experience. I would advise that you stick to the good breeding horse (not necessarily a show champion). Deal with the noted breeders that have taken years to build up a reputable business. They are only too pleased to help and advise.

The Mallee and Wimmera wheat fields were once noted for their 10 or 12 horse teams. They were good types of horses, with experienced drivers. Eight horses could be yoked into a steel-tyred wagon, pulling 100 bags many miles without any trouble. In fact, I have seen two-shafters shift a 100-bag load on a stubble pad-dock.

It amuses me to see four horses at our shows flat out to shift an empty lorry. This is all past history now. I don't think there are too many Clydesdales used commercially. But who knows? With fuel shortages and inflation we might have to come back to them, like we did in the last Depression.

Another year at Moora Moora

By PETER COCK & MARK SNELL



Members watch as one of the Moora Moora sheep is shorn.

It is more than a year since we last wrote in Earth Garden about the history and philosophy of Moora Moora Co-operative Community.

Things move slowly from day to day, but looking over the year since that article we have changed and developed considerably.

Then we were 20 members. Now we are 30, needing another 30.

Then we were talking largely about what we were going to do. Now we are much more concerned about working on practical projects.

We have been through several ups and downs, with some members leaving and new people joining. Our new membership has given us a more practical orientation, with people more into farming and arts and crafts.

Our emphasis has changed towards encouraging individuals to increase their commitment to the land.

Each member now has rights to one hectare of land for agriculture or grazing, as well as rights to build and a garden plot.

We hope members will develop their hectares with others, particularly for animal husbandry.

While we work to maintain a sense of co-operative community, we emphasise more now our realisation that community evolves out of individuals sharing their lives together. House building, child minding and resource sharing offer practical advantages of co-operation with others.

Our continual struggle is to balance our needs between working together as a community and allowing enough room for each individual to have the freedom to contribute their unique attributes.

In practice discussion is held and our decisions on policy are made at regular business meetings. Groups within the co-op are responsible for the smooth operation of its routine functioning.

The farm group co-ordinates farm activities and controls land use and conservation policies.

The works group maintains the Lodge, the "old house", farm buildings and equipment and implements development projects passed by the co-op.

The membership group's role is to attract new members and to promote the co-op's activities.

At various times, members get together to organise social gatherings, community meetings and educational projects.

Since last year, the original planning permit has been amended to allow relocation of one of the cluster housing sites. The co-op has been granted exemption from a Uniform Building Regulation so that 30 houses may be built on the property.

Four house plans have been submitted to Healesville Council. Another will soon be submitted.

Designs include a two-storey barn-like structure and one based on a hexagonal crystalline form. One is designed around a heating system which uses a rock bed under the house and the energy of the wind and the sun. The other will eventually be a "cluster centre" providing shared facilities. Like the other houses, it will use natural materials such as mudbrick and bush timber.

Building is expected to start before summer.

Three of the six cluster sites are being developed. One site has been cleared. On another, excavations for a house have been made.

Six adults and their children now live on the property. Two other members have set up part of the

barn as a workshop which they use three days a week.

Two of our children and three neighbour's children have formed a playgroup on the mountain — hopefully a basis for a school.

Over the year, parties and two festivals have been held on the land and a number of people have camped over holiday periods.

Access roads to cluster sites were formed, graded and gravel was spread on them. Drains were laid in an attempt to keep them passable for the normally wet winter.

Two dams were created. The kids' room in the Lodge, the garage and the shearers' old house have all received attention and repairs.

Two members have leased a hectare each — one will grow Chinese gooseberries, the other potatoes.

A couple of members have organised bulk buying and are providing cheap food for members.

A bi-monthly newsletter is now published in a 12-page folded-foolscap format. It is produced to improve communications within Moora Moora and is circulated among interested people to give them an up-to-date picture of the community's thinking, activities and development.

The co-op's immediate future priorities are refinancing mortgages and finalising lease arrangements for members who are building.

Peter Cock and Mark Snell, Box 214, Healesville, 3777.



Cluster site One will be behind this stand of mountain ash.

Land lines is a free service for Earth Garden readers. It is intended to help those seeking to buy or sell land, or search for it, and those joining together for group land buying or allied reasons.

Readers must give their full names and addresses as proof of their sincerity. They have the responsibility to thoroughly check all deals. Please keep them short!

We are looking for some people who are into co-operative living of some sort, people who want to do it in the country, on about 40 acres, people who are travellers on the spiritual road. Josh is 2½, would dig some company around the same. We don't eat much meat and don't care if anyone else does or not.

Ed, Ned & Josh Burrowes, Taylors Arm Road, Millbank, NSW, 2440.

Back-to-the-Earth People — couple wanted to share 147 acre property, good soil and surroundings, with four others with ideas of becoming self-sufficient. Area 10 miles south of Margaret River, WA. Needed \$5,000 to close deal. Total cost \$25,000.

Brian Gee, C/- Walker Street, Wembley, WA, 6014.

land lines



We have 1¼ acres of land to sell. It has running streams on two sides forming rock pools. It is about 1500 feet above sea-level, 30 miles from Coffs Harbour and five miles from the PO/shop and primary school. A bus runs to Coffs every day, but only on Wednesday during school holidays.

There is a house on the land awaiting assembly. It was an old mill-house and needs renovating. Ideal hide-away from the hum-drum of town life. We are asking \$3000.

Sincerely, A. Gillson, C/- PO Lowanna, NSW, 2493.

Mandala Community Farm still has one share available. The farm is 278 acres of fertile soil, hills, flowing creek on a no-through road in a pretty and quiet valley, 21 miles north of Warwick, Queensland.

We have farming implements, a piggery, a fowl house, 100 acres of rich, cultivatable land. Land uses or income sources being discussed include pigs, dairy, poultry, crafts, organic market garden. Each family has 2 acres for home and private use. There are 14 shareholders — families and single people — who are non-religious, non-fanatical and wishing to live and work on the land in a sharing and co-operative environment.

For practical reasons a company has been formed protecting and ensuring flexibility of each \$4,000 shareholding. For more information contact Mike & Jenny Hudson, 10 Stevenson Street, Kew, Vic, 3101. (Tel: 86 9143), and Suse & Eric Colladetti, Gumnut Road, West Pennant Hills (Tel: 84 1234) in Sydney, NSW, 2120. Or write to: Gaye Samson, Mandala, North Branch Road, Maryvale, Qld.

We would like to purchase (by ourselves or co-operatively) a few acres in the region between Cairns (Qld) and Taree (NSW), up to 100 miles inland.

Thank you, Jim & Helen Rodgers, 50 Marshall Street, Ivanhoe, Vic, 3079.

We had to be two of those people who finally decided that they couldn't be bothered with the city anymore, and a couple of years ago left it for good. It took us 8 months to find the piece of land we were looking for, and we've been on it for more than a year. For a couple of city yobboes it hasn't been what it was supposed to be — according to all the books we read — but it has given us a wonderful sense of freedom, and rediscovery of the beauty of life. We're getting a little vegetable patch going and hope it will expand enough so that we can sell on the local market.

Any people passing by this way, and who can put up with us whinging about all the things going wrong (you're not a proper farmer until you're good at that) are welcome to camp at the place for a few days. There is a freshwater creek, a hill where you can look at the sea, and privacy. You would have to bring your own accommodation, because we live in a one-room shed, but we can give you fresh vegetables and sage words on things not to do, which we've done. If you wished to help us during your stop-over, I'm sure we could find a few weeds to pull, mulching to do, or seedlings to plant out — but that's optional.

All you really need is a belief in a dream, and although ours might not be yours, a sharing of dreams can often encourage them to reality.

Kind regards, Winsome Moore, M/S 76, Emu Park Road, Rockhampton, Qld, 4700.

It is my plan to establish a community based on neighbour-family-nature relationships. I would like to invite the participation of three or four couples devoted to natural living and healthy foods and against the use of drugs. Maybe we could get together early in 1977 to look for a suitable area of land — what about 25-50 acres of secluded fertile mountain land per couple?

Please write to Russ Warner, Box 76, Southport, Qld, 4215.

I am buying two acres of grassed farmland with a constant clear water creek through it, bounded by State Forest. I have always been an ardent gardener in vegetables, flowers and a big variety of fruit trees and have a comprehensive workshop of tools and machinery. Now I want someone like myself with no ties who would like to share this new lifestyle with me. I would love to hear from any woman interested and exchange views and show them first-hand the Garden of Eden they would come to. I live 3 miles from the intended farm.

Peace, love and happiness, Joseph Heapy, 25 Albert Street, Kendall, NSW, 2439.

My wife and I are planning to retire early and are hoping to buy a few acres north of Brisbane soon. I have been practising a natural way of growing veges and fruit for many years in my suburban garden and what I read in Earth Garden is very familiar and very much close to my heart.

We hope to meet readers and friends living around Brisbane.

Yours sincerely, Ernest Vallavanzi, 62 Burwood Street, Everton Park, Brisbane, Qld, 4053.

We have 310 acres for sale, six miles west of Howard, 25 miles north of Maryborough, Queensland. There is a ½-mile frontage to Burrum Weir, unlimited free irrigation water. The land is next to orange groves and has been used for growing pumpkins and watermelons. About 50 acres is cleared, the rest is light forest, fenced on three sides, the weir on the fourth. No dwelling, but the climate is beautiful. \$100 per acre, can sell on terms if necessary.

Contact L. & M. Chandler, MS 332, Thangoo, Qld, 4716 (phone Mardale 203).

I am looking for a small house on about five-to-ten acres of land to rent. It must be fairly close to Sydney, say the Minto or Campbelltown area, as I work at the Mail Exchange at Redfern and have to travel back and forward five days a week.

I live alone and like being by myself, so the more isolated the area, the better. I want to grow my own vegetables and keep a few chickens and maybe a cow or two. I came off the land in New Zealand and know a bit about the land. Water and electricity is a necessity.

Love, peace and abundance, Ms Marie Rolley, Flat 1, 14 Mansfield Street, Glebe, NSW, 2037.

I am looking for 10-25 acres of uncleared light rainforest-type terrain, with or without a shack, within 25 miles of Nowra, Eden or Bega, NSW, to live on permanently with my young family. Only small areas need be level, the rest can be quite steep and it must have a permanent running creek, with ferns, mossy rocks and, hopefully, a waterfall or two.

A building permit and electricity would also be required. I'm on a pension, so I can't afford an expensive deal.

If anyone can help, please write: F. Findlay, 23 Pridham Street, Farrer, ACT, 2607.

We have an old, four-roomed cottage, beautifully situated in the hills of the southern Flinders Ranges (SA), 10 kilometres north of Wirrabara. Power is supplied from mains. There is a semi-detached sunroom for seedlings and extra room for the future bathroom. A septic system has just been installed. Water is supplied from a 3000 gallon rainwater tank (cemented inside) and a good bore and pump, capacity 500 gallons per hour.

A small orchard of fruit trees and vines surrounds the house.

Fully fenced, our 10-acre cleared property is ideal for vegetable plot and sheep grazing or a few cows. A creek (dry in summer) supplies a small dam. We have planted many varieties of eucalypts over the last two years. Photos and info available. Price \$10,000.

Janet & Andrew Gordon, PO Box 49, Wirrabara, SA, 5481.

We'd like to get together with another five or six groups to make a co-op purchase of land outside one of the larger towns of NSW Northern Rivers district.

We want to farm part of the land with the aim of self-sufficiency, and we feel we need to have easy access to a good town whose community we can join and which hopefully can offer jobs to provide supplement incomes.

Other thoughts: own separate homes with a respect for privacy co-op ownership of farm equipment, pumps and whatever. By the way 'we' are two architects, a teacher, granny and two kids.

Write, phone or call and let's talk, Ken Murray, 9 Chaucer Crescent, Canterbury, Vic, 3126. (Phone: 83 3539).

We are a group of would-be commune people, with only one problem — no land. We've been in touch with 20-30 real estate agents, but it's hard to get them to understand who we are and what we want. We're interested in the mid north-coastal area (up to 50 miles inland). The property should be about 500 acres (at about a minimum of \$80 an acre) with a river or river access. We only need about 20 acres cleared for crops and grazing, the rest can be as rugged and beautiful as you like. We also want seclusion, we're all sick of semi-trailers etc.

Love, Keith and Irene Hingley, The Lodge, Wollagorang, via Breadalbane, NSW, 2692.

We are interested in finding another couple to share a cottage on some land, preferably within a radius of 70 miles from Bendigo, Victoria. We intend on working the land and being at least half self-sufficient. Our capital outlay will not be very much and our interest in pottery might require a little space.

Yours, Kieran and Siobhan. Please write: W. K. Kenny, SMQ, Cooke Pt, Port Hedland, WA, 6721.

I'm a self-employed bricklayer working the inner suburbs. With my wife Mariea and daughter Rosie, would like to become part of a commune or co-op that can use my skills. I can fence and milk cows and have two years experience in a large studio pottery-kiln maintenance, glazing, mixing etc.

We have no real religious leanings etc. I'm very interested in solar energy (low cost) and building from soil cement, adobe etc, and I'm learning carpenter's tools.

Regards, Geoff Fisher, 132 Foucart Street, Rozelle, NSW, 2039.

My girlfriend and I are eager to move onto the land, preferably with others. We haven't much money yet, but we do have

the willpower and energy to attempt the lifestyle we believe in.

We also have one cheeky, very pregnant, very beautiful donkey to help with the heavy work — after she has foaled of course!

We eagerly await a reply, Gary Pick, 208 Bussell Highway, Busselton, WA, 6280.

At Christmas time I shall be on holidays for two months. I would like to find someone who needs a willing, able worker at that time. I am willing to work in return for food, shelter and company. I was brought up on a dairy farm at Dorrig, NSW, so am able to milk as well as garden, cook, sew and even babysit, and am eager to learn. Basically I like a simple down-to-earth life and am vegetarian.

Sure hope someone will be able to offer something, so hope to hear.

Thanks, Jennifer Francis, 3/122 Old South Head Road, Bondi Junction, NSW, 2002.

We are a couple with two small girls and we are looking for about five acres of arable farmland on which to begin our organic farm within an 80-mile radius of Sydney. Be it an already established commune or by itself, we are still interested.

Greg and Suzie Weight, 118 Wakehurst Parkway, Narrabeen, NSW, 2101 (phone 913 3891).

We're a couple with a two-year-old kid, and we're interested in goats, sheep and vegetables, music and living. Would anyone interested in a co-operative in the Mudgee area on a 700 acre farm, contact us?

Thanks, Anthea Stock, 6 Warranbungle Street, Gunnedah, NSW, 2380.

Quite a few readers from the United States have written to us to ask about communities in Australia. Some are thinking of emigrating here. Most are vegetarians or vegans. If you'd like to contact them, here are their addresses:

Ralp Delfino, PO Box 353, Descanso, California, 92016.

Bill Percival, PO Box 174, Eureka Springs, Arkansas, 72632.

Jeannie Nichols, General Delivery, Alma, Colorado, 80450.

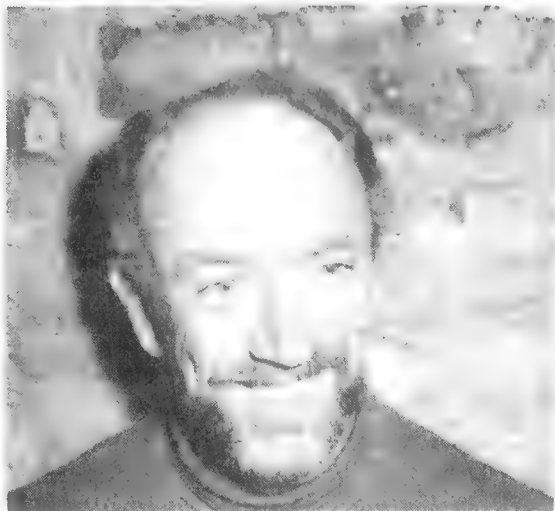
J. Bellin, 221 San Jose Avenue, Capitola, California, 95010.

Jay Boyle, 2607 Cavavaugh Road, Mt Vernon, Washington, 98273.

Diane, Sam and Noah Lieberman, 244 Hargadine Street, Ashland, Oregon, 97520.

Leonard R. Keith, 40 Malta Circle, Concord, California, 94520.

RANDOM THOUGHTS



Advice — some of it controversial — on establishing a self-sufficient lifestyle by Brian Walker*.

To become really self-sufficient in the fullest sense requires hard, sometimes back-breaking work. In the early stages it can mean working from sun-up to sun down with very little time for relaxation. In fact, you really have to enjoy hard work if you really want to make a go of it.

You need to have a clear understanding of the difference between "wants" and "needs". This sometimes requires a big mental re-adjustment and you can't expect everything to work out overnight. As your life changes, so does your outlook; gradually you find you can no longer justify hanging on to things which earlier you couldn't bear to part with.

Don't be afraid to make a living out of your land. No matter how self-sufficient you become, unless you are living like a nomadic aborigine, there will always be some things you will need to buy. I can't understand those people who scorn any form of profit-making as being "too commercial". The secret is to know when you have earned enough to meet your needs and to stop there.

Don't be over sentimental about livestock. You don't have to refrain from killing anything in order to live in harmony with nature. Anyone who has observed nature intelligently realises that life is harsh and cruel: The strong kill the weak; the fittest survive. One kind of creature is simply food for another. The miracle of nature is the delicate balance that is maintained between all living creatures and their food supplies. If you aren't prepared to kill or dispose of your surplus domestic animals, eventually

you will create a serious imbalance which will be harmful to your natural surroundings.

There is plenty of evidence that man is a naturally omnivorous creature. Often the reasons given for not eating meat are based on nothing but sentimentality towards animals. Many people do eat more meat than is good for them and developed countries raise animals, such as beef cattle, which require far more land and fodder than can possibly be justified by the amount of meat they produce. Smaller animals such as pigs, goats and poultry convert food into bodyweight far more efficiently — and are much more economic and practical for small farms.

One domestic animal for which there can be no justification in the bush is the cat. Cats — even the tamest of them — are voracious predators; they wreak havoc upon the native fauna around a farm. If your aim is to live in harmony with nature, you shouldn't own a cat.

Anyone setting out to establish a self-sufficient lifestyle should realise that there will be quite a lengthy period of work and waiting before the land becomes productive. Crops need time to grow; animals need time to breed. Unless you have plenty of capital, you will need a job or some other money-making activity to tide you over the establishment period.

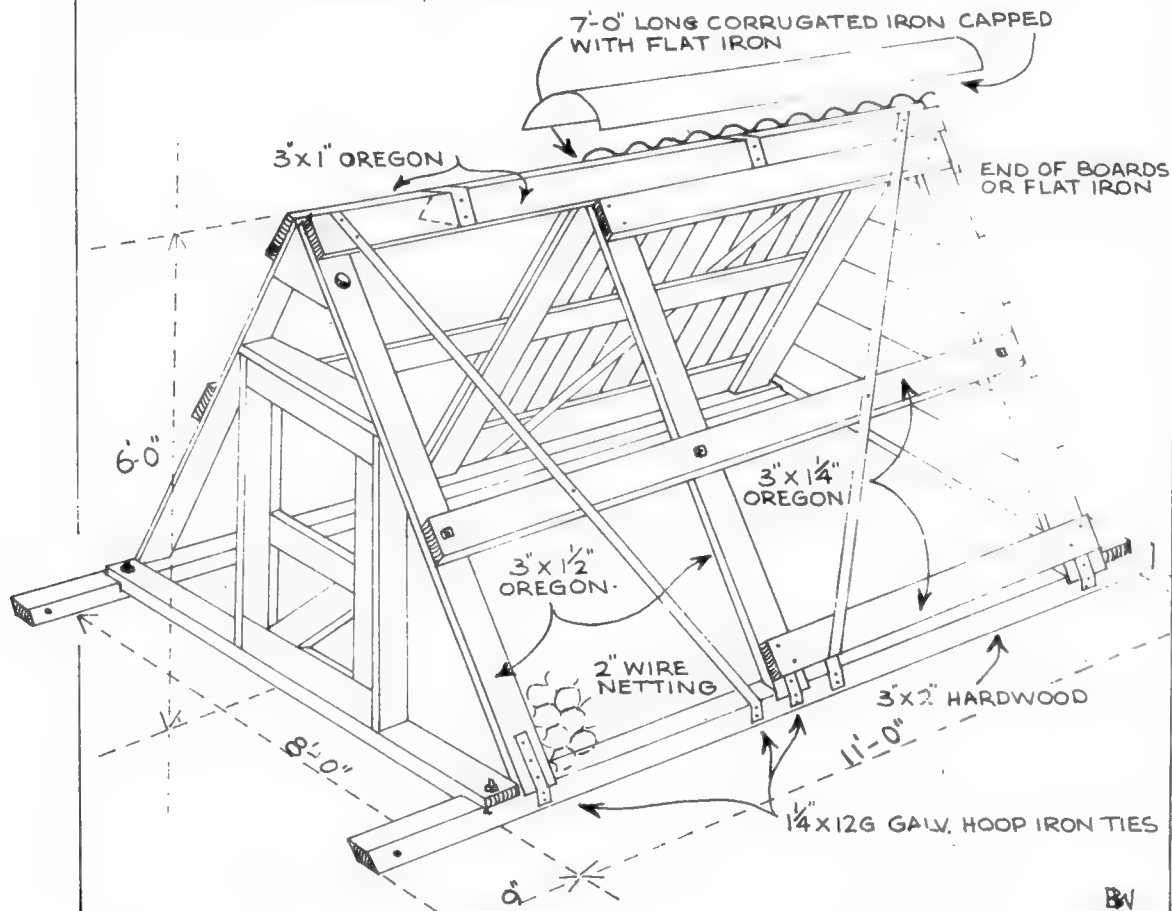
Farming co-operatively is a most intelligent form of land use. Much more can be achieved when several persons share the work than by a single person working alone. A group of people, similarly motivated, will often succeed where an individual will fail or give up because the task is beyond him.

Don't rely on unemployment benefits as a source of income. That is not independence.

Don't expect to be able to move onto a farm that has been cultivated conventionally for years and expect immediate 100 per cent success with organic techniques. It takes a while to build up a supply of compost — even longer to build up soil fertility so that insect pests are no longer a major problem. During the building-up period, many compromises often have to be made between the ideal and what is immediately practical.

* Brian Walker lives on a farm at St Albans, near Wiseman's Ferry, north-west of Sydney. He would like to hear from other people interested in self-sufficiency and organic farming. Write to him at: St Albans Road West, Central MacDonald, NSW, 2255. Brian will be passing on some of his ideas and experiences in a series of articles in *Earth Garden*, the first of which appears in this issue.

FREE-RANGE POULTRY SHED



BY BRIAN WALKER

Once you have securely fenced your orchard and vegetable garden you are ready to keep your poultry on free range. To provide clean, healthy living conditions for your chooks you need a movable shed.

Although a permanently positioned shed may be easier to build, it has many disadvantages; the ground around it soon becomes 'stale' and harmful parasites breed and multiply. Before long your birds become unhealthy, stop laying, grow more slowly and may even catch diseases that eventually will kill them.

You can avoid this predicament by spelling the shed for several months at a time, but that means it is empty for a large part of the year and that is not very practical.

A movable shed is the most practical way of housing birds on free range. It can be moved regularly onto fresh ground — every day if you like — and you are able to control your birds carefully so that you have many of the benefits of intensive housing without any of the detrimental features.

A movable shed enables you gradually to manure large areas of ground without the usual labour of cleaning, carrying and spreading. You can move the shed into shade during hot summer months and leave it out in the sun during the winter.

You don't have to be a master builder to be able to construct a neat, comfortable, easily portable shed for

your poultry. Here's how to do it: You will need a good heavy claw hammer (20 or 24oz), a saw, a spanner and a drill. A longer-than-average drill will be needed for the bolt holes at the top of the frame. A post-hole borer is ideal for this job if you can get hold of one. You will also need a roofing punch when you are putting on the roof and for punching holes in hoop iron.

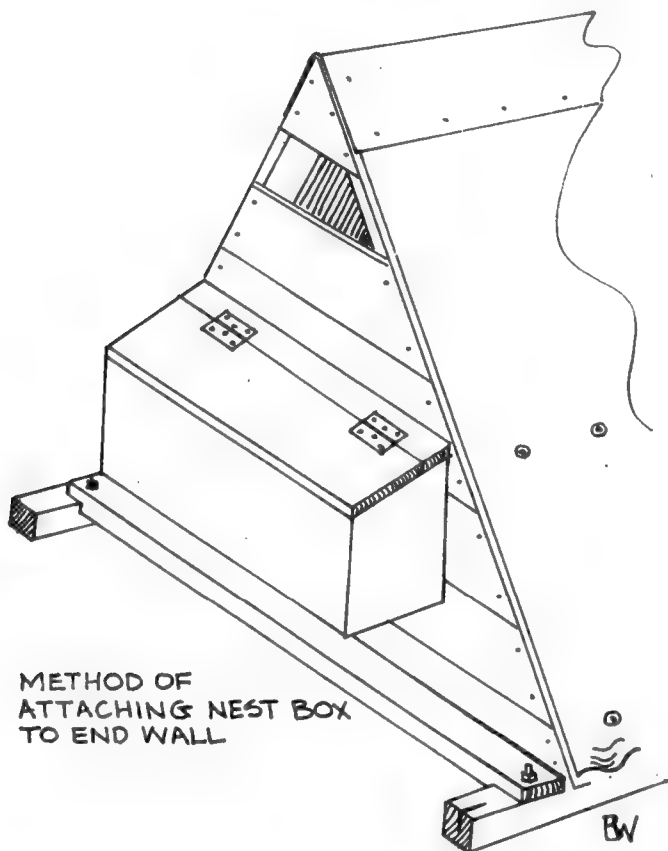
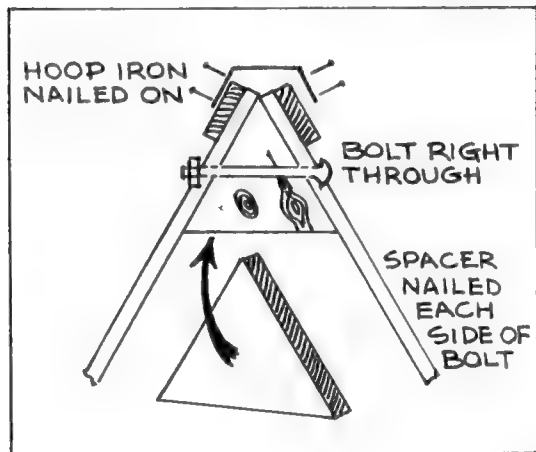
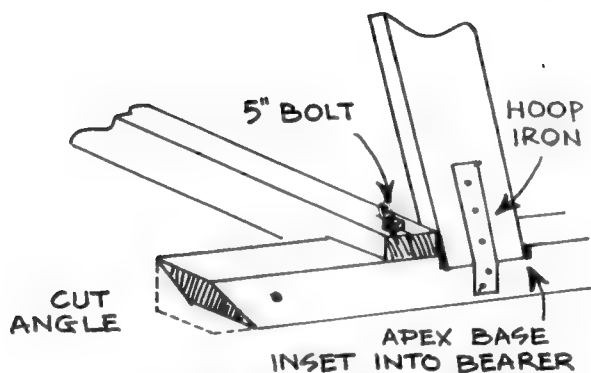
If you want to be really professional, you can also have on hand an implement for measuring and marking angles; you will find it useful when you are cutting the triangular spacer blocks for the apex of the frame and for cutting the base of the frame where it is set into the tops of the bearers.

Make the base out of 3" x 2" hardwood, 12ft long by 8ft wide. Let the cross pieces into the bearers and fasten them with 5" bolts countersunk on the base.

To keep the weight down, the framework should be built out of oregon or whatever kind of softwood you can get. Buy your timber only if you can get it direct from a sawmill. Don't buy it from a retailer; you will have to pay too much. If you can get hold of some used lumber, use that; you will save a lot of money. Just remember that, wherever you obtain your timber, you need hardwood for the base and softwood for the frame.

The finished shed has a 5ft section covered with corrugated iron and a 6ft netted yard with a gate.

The six principals of the apex are 3" x 1 1/2" softwood, bolted together near the top and let into the



tops of the bearers where they are securely nailed and strengthened with strips of 1 1/4" x 12-gauge hoop iron. They are joined horizontally by lengths of 3" x 1 1/4" softwood bolted to each, and braced diagonally with strips of hoop iron.

The ridge is made of 3" x 1" softwood nailed to double, triangular spacer blocks placed one on each side of the bolts holding the tops of the frame together. These joins are also strengthened with strips of hoop iron.

Two more spacer blocks are placed halfway between the centre apex fastening and each of the ends. If that sounds terribly confusing, look at the diagram and you will see the position clearly enough. These spacers are also re-inforced with strips of hoop iron ... securely nailed.

The 2ft-wide gate is 3" x 1" softwood with double strap hinges and a simple wire catch or a slip bolt, whichever you like. The frame for the gate is nailed in place and re-inforced all round with strips of hoop iron.

Whether or not you include a floor in the covered section depends on your birds. If they are accustomed to roosting on perches, well above the ground, they probably won't like sleeping on the floor of their new quarters. If you install raised perches, you won't need a floor.

If you decide to build a floor, use 1" galvanised wire (square mesh type) tacked to the bottom of 3" x 1" hardwood perches set on 1ft centres and nailed to the tops of the bearers. You will then need something to stop chickens from getting under the floor. Use a 6" x 1" board hinged to a 3" x 2" hardwood plate with a 3" x 1 1/4" softwood batten across the top. This board is hinged so it can be folded up out of the way when the shed is being moved from one place to another.

Nest boxes are built into the end wall opposite the gate. If you build them so they protrude from the wall on the outside, you can have a hinged lid on top which will enable you to collect eggs without having to enter the shed.

Each nest box should be about 12" x 12" x 12" (no smaller) and can be placed at floor level, if your shed has a floor, or at the same height as the perches. Just remember that, because of the tapering walls, the lower your nest boxes are placed, the more you will be able to fit in. Waterproof the top of the nest boxes with flat iron or a sheet of malthoid.

If you have trouble with foxes or other predators (and who doesn't?), you can shut your birds in this shed at night and keep them safe. If you provide feeding and drinking facilities inside the shed, your chooks will be quite happy and comfortable, even if you forget to let them out first thing in the morning.

If your shed is on a slope, place it at the lowest point first and gradually move it uphill. Ideally, it should be shifted its own length each day. Regular moving is important especially in wet weather. Keep the shed off cultivated ground when there is rain about.

To make moving easier, attach a length of 8-gauge fencing wire through holes bored in the bearers. Hook one end of your tow-rope or cable to this wire, the other to your tractor, car, bullock team, wife and kids, or whatever is going to do the pulling — and away you go.

If you lack all these facilities, don't worry. The shed is light enough to be manhandled by one or two persons the short distance it normally will have to be moved.

Have you got all that? Right, start building. If you are confused, don't worry. Study the diagrams and everything will become clear.

FEED FOR FOWLS

The Domestic Poultry Keepers' Council was set up by the British Government to help domestic poultry keeping during World War II, when poultry feeds were rationed.

It gave these instructions for using wastes which were mixed with **balancer meal** — a concentrated feed made of mixed ground cereals, cereal by-products and animal protein. Under wartime rationing, the owners of 12 or fewer fowls were allowed only 2.3ozs of balancer meal for each bird. Information has been slightly adapted for Australia.

Wastes

Household waste should be prepared as follows — Edible waste such as vegetable and root peelings, green vegetable leaves, pea shells, bean pods, runner beans, carrot, turnip and parsnip tops, artichokes, small potatoes and vegetables, marrow seeds and kernels of stone fruits, apple cores and peelings of fruit, meat and fish trimmings, bacon rind and cheese rind, etc, should be put through a mincer and thoroughly cooked in a minimum of water, or preferably, steam cooked, if a steamer is available.

Scraps left over from meals and plate scrapings should be put straight into the pot. Stale bread crusts, stale cake and similar food waste over and above what can be used up in the house may be dried in a slow oven until crisp and crumbled to a meal that can be added to the cooked material. It can also be stored for future use, as it will keep well when dry.

Feeding

Regularity is all-important. The prepared mash should be fed in a clean trough and given to the birds in two feeds, one in the morning and one in the afternoon. In cold weather it should be fed whilst warm. If any food is left over in the trough, it should be collected and included in the next cooking.

Fresh, uncooked vegetables are a valuable addition to the ration. They may be given about midday. Whole root vegetables, cabbage, and kale stems should be split open before feeding. When green vegetables are

available they should be hung up in a net about 18in from the ground, so that in reaching for them the birds will get some exercise and undue waste will be avoided.

Keep the feeding and water vessels scrupulously clean, particularly in the summer. At intervals the vessels should be scrubbed out thoroughly with boiling water and allowed to dry before re-using. Neglect of this precaution is likely to cause trouble.

Fresh drinking water must always be available and should be provided in open vessels that are easily cleaned out.

Grit is necessary for the digestion of the fibre in the food, and flint grit or any small, hard gravel may be used.

Lime is required for the formation of the egg shells, and may be supplied to the birds in the form of cockle or similar shell (oyster shells), limestone grit, or old dry mortar. The grit and the shell should be placed in boxes to which the birds have free access.

Warning

This waste is inedible and should not be fed to fowls — tea leaves, coffee grounds, banana skins, orange, lemon and grapefruit peel, soda, soap and salt.

Collecting waste

Household waste can be dealt with most conveniently if a galvanised pail is kept near the sink, so that edible waste produced during the preparation of family meals can be consigned to the pail.

If the waste of one household is not sufficient to maintain the number of birds kept, arrange to collect that of your neighbours by providing a clean bucket and giving instructions of the type of waste to be included. Waste available from this source should be collected daily.

Garden crops

A garden or allotment nearly always produces some surplus vegetables that can be fed to the hens. Potatoes are excellent for the purpose; but they should be cooked before use. There are always some tubers produced that are unsuitable

for the table. Hens relish the pithy centres of the stems of cabbage, kale, brussels sprouts, etc. The stems should be split down the centre and hung up where the birds can reach them.

Green and root vegetables of most kinds may be fed raw. In the winter, roots such as turnip and beetroot, form a good substitute for green vegetables. They are easily stored.

In the absence of supplies of the normal cereal foods, **sunflower seeds** make a useful substitute, which is readily eaten by the birds. These plants can generally be grown in the garden or allotment without interfering with the normal cropping for the table.

Housing

A golden rule in the housing of poultry is to avoid overcrowding. Fowls kept intensively, that is, kept in their house all the time, should be allowed at least four square feet of floor space per bird. If, however, they have an outside run this area can be reduced to three square feet for each bird.

A popular type of house with the small poultry keeper is the "six-by-four", 6ft long, 4ft from back to front, 4ft 9ins high in front and 4ft at the back. This house will accommodate four adult birds kept intensively, or eight birds where a run is provided.

Generally speaking, the number to be kept in a given space is determined by the size of the house in which they roost.

Poultry house may be built of a variety of materials, such as timber boxes and cases, asbestos-sheeting, corrugated iron or even stout felt (there was a wartime timber shortage). The roof should be rainproof and, if boarded, should be covered with a good quality felt secured by battens. The house should never be placed on a naturally damp piece of ground.

Wherever possible it should face north or north-east; it will then be sheltered from biting winds and will admit direct sunlight for the greater part of the day.

Where an earth floor is used, the earth must be rammed down hard to

form a solid floor. Where a wooden floor is favoured, it should be erected on brick or concrete piers sufficiently high to allow a cat to creep underneath. There will be no inducement for rats to hole underneath the floor. Although an earthen floor is naturally the cheapest, it has several disadvantages; it is difficult to keep clean and may become infested with vermin. A wooden floor has the practical advantage that it can be thoroughly cleaned.

Whether an earth or wooden floor is used, it is essential that it should be covered with scratching litter to a depth of about six inches. This can be peat-moss and dry earth mixed in equal quantities, straw (soon broken up when the birds scratch in it) or dry leaves; peat-moss is possibly the best because it disinfects the air. This litter should be raked over once a week and renewed every month; it can then be used in the kitchen garden.

Houses must be well lighted. Light has an invigorating effect on all classes of livestock, and it is an excellent guard against insects. Such insects as red mite detest well-lighted houses, and if light is admitted by sliding windows over a wire-netted opening it is quite easy to provide the birds with plenty of fresh air during the hot summer days, or to regulate the windows to provide warmth during the winter.

Nor is it difficult to fit an additional window at the back of the house, beneath the droppings board and as near to the floor as is possible. This will ensure a better light being spread over the floor and encourage the birds to exercise at the scratching litter.

Particular attention should be paid to ventilation, and this can best be secured by an inlet low down and an outlet at the highest point. An excellent place for the inlet is beneath the droppings board, which acts as a baffle. The highest point of a wire-netted front makes a practical outlet. Draughts are harmful. A cold, damp or windswept floor does not help winter egg production but will cause the birds to mope about. Occupation and scratching exercise are essential to stock kept indoors.

The droppings board should be fitted about 2ft off the floor at the back of the house and should be movable for cleaning each day. It should be about 2ft 6in in depth and take a 2in by 2in perch with slightly rounded edges about six inches

above it. The perch should be made to rest in brackets or sockets and be removable. Each bird requires a minimum of nine inches perching space. Droppings boards should be sprinkled with dry earth or sand after their daily clean.

The manure provided by poultry will, if properly handled, be of considerable value for the garden and allotment; it should be dry stored or placed in a large dustbin.

To conserve the properties of the manure and to improve its physical condition, it may be mixed with a small quantity of dry soil or peat moss.

Nest boxes, one for every three fowls, must be provided. These, too, should be movable. They should be not less than 12ins square, and there should be a strip of wood 3ins deep running across the bottom of the entrance. The boxes should be lined with a good depth of straw or hay to prevent broken eggs.

Perches, droppings boards and nest boxes should be kept scrupulously clean, otherwise they will harbour red mite, fowl lice and other insects.

Where birds are kept intensively a dust bath must be provided. In an

same time. One measuring about 15ins long and 4ins deep will provide sufficient space for seven or eight birds.

Where an outside run is provided these fitments should be placed in the run, with the water container shaded from the rays of the sun. Fowls like cold water. A grass run is, of course, ideal, and where this is available it should be divided into two sections, so that while one half is in use the other is resting.

In an odd corner dig up the soil loosely to enable the birds to "dust bath" in it; birds running on grass rarely get scaly legs. When an earth run is used it should have gravel or sand laid on it; this should be skinned off each month and the run dug up every six months. Ashes should not be used as they tend to cause scaly legs.



odd corner fix up a shallow bottomless box about two feet square; fill it to within an inch of the top with finely-sifted dry earth or road drift. After a time it will be seen that the birds will use this box regularly to "bathe" in, particularly during very warm weather.

Other fitments inside the house include a box for grit and oyster shell, a feeding trough and a shelf upon which to stand the water container. If oyster shell is not obtainable, limestone grit can be used. The feeding trough should be of such a size as will permit space for every occupant of the house to obtain a share of the meal at the

Points for the poultry-keeper:

1. Clean droppings boards daily.
2. Fork over the run once or twice a week.
3. Ensure that the birds have exercise, especially those kept intensively.
4. Collect eggs regularly.
5. Keep drinking vessels and feeding troughs scrupulously clean.
6. Supply fresh water regularly. Birds like cold water, and vessels should be shaded in summer.
7. Rake over scratching litter weekly and renew every three or four months.
8. Do not overcrowd.

(Suggested by Jack Williams)



For people with a bit of land around them, peafowl can provide an interesting and attractive addition to the farm livestock. They are no harder to keep than most poultry, they are very beautiful, breed readily and there is usually a ready market for the offspring.

There are two species of peafowl. The Indian, or Blue Peafowl, is the one generally seen. It is native to India and has a brilliant blue coloured neck. The other is the Javanese, or Green Peafowl, even more magnificent, native to Java and Vietnam. It is a taller bird, and has a green-gold neck, much less common and harder to breed successfully.

The White and Pied are mutations of the blue peafowl. Both are attractive in their different ways. The white, though not colourful like the blue, retains the "eye" structure in the tail feathers and at various angles glistens like mother-of-pearl. An interesting fact is that the colours of peafowls (even the blue) are not derived from pigmentation of the feathers themselves (the actual colour is brown, as can be seen when ground to powder), but by refraction and reflection of light.

This is similar to the way a film of oil acts on water. When your angle of observation changes, so does the colour. The pied has white feathers with normal blue feathers. This sounds rather unappealing, but individuals may be very attractive, depending on the pattern. Pieds are not a cross between whites and blues.

Peafowl are sometimes advertised for sale in newspapers. Perhaps a "wanted" ad might bring some response. The price just now seems to be usually \$50-\$60 a pair.

A pen of some kind will be required for the first two months or so. If they are released much sooner than that they are likely to wander. If one is kept in the pen even longer, the other won't be inclined to stray.

Once they accept the place as "home" they don't wander far, moving about somewhat like geese. Some grain or bread twice a day is all they need and they will tame quickly, eating readily from the hand.

They prefer to roost in a tree at quite a height above the ground. They are very hardy birds, often living 20 years or more. Cocks will live quite peaceably together, usually wandering around together after the breeding season, apart from the hens and their young.

The main problem will probably be foxes if you have them in your area. Peafowl are quite able to avoid trouble until the breeding season, when sitting hens are liable to be taken. So either a pen will be needed for keeping hens in the breeding season, or else the eggs from their nests will have to be collected (finding it isn't always easy) and incubated under an ordinary hen. The toll on sitting hens in the open explains the greater number of cocks than hens in many places.

The hens make excellent mothers, hatching the eggs in 28-30

Peafowl

By DAVID HIGHAM

days. Chicks hatch with wing feathers already formed and can fly a few feet high after only a few days, when the sheath covering the feathers has been lost. They grow slowly, almost to full size within six months, and stay with the mother for nine to ten months. They will thrive on grain, laying mash or pellets and green stuff.

If desired, peafowl may be kept quite successfully in a pen year-round, although this must be reasonably large. They will lay well, though they don't often sit, so the eggs will have to be hatched in an incubator or under a hen.

Peacocks take three years to grow a full tail. The first two years the tail isn't much longer than that of a hen. The tail moults once a year after the breeding season, which extends from September to December. Each new tail is a couple of inches longer than the previous one, until the cocks are about nine years old.

They will breed at two years of age. Hens lay for the first time at either two or three years of age and for many subsequent years.

Among the drawbacks to peafowl is their harsh cry. Calls are much less frequent after they have settled in. Also the cocks are sometimes inclined to chase other birds, mainly geese and turkeys.

They have three distinct calls for different situations, which are easily recognised

- a call resembling a tomcat, which seems to be territorial;

- a long drawn out call, often heard after some loud unfamiliar sound;

- a "honk", which is the one to look out for, as it means they are disturbed or frightened by something, which may need your attention.

Peacock feather may also be collected and used either for decoration or sold. Florists are a pretty reliable outlet. The shop price sometimes reaches 40 cents a feather.

If anyone has any queries about peafowl, or is having difficulty obtaining them, I might be able to help out if you drop a line with sae to PO Box 36, Finch Hatton, Qld, 4741.

More about goats

BY ELLIE BRAY

About goats. I love your magazine, but I am quite alarmed by the people who are writing in saying that they "keep goats". On reading about one person keeping — was it 45? — I was prompted to give a few words of experience and advice.

If you are in any way conservation-minded about the bush or the land you are living on, any more than one or two goats will be more than enough for you.

Besides elephants, goats would be the most destructive foragers — particularly when a herd grows too large for control and goes feral or is abandoned (as sometimes happens). You may remember that a couple of years ago one of our National Parks had to be cleared of "wild goats" which were destroying it.

Don't have anything to do with the common bush goat which you can buy for a few dollars. She'll give you a cup of milk if you are lucky; and what do you want a goat for if it's not for milking? Find someone who has a goat that milks (or her mother milks) about four pints-to-a-gallon a day.

She should be quiet, not shying and jumping away from you. If you are away from home most of the day, she will need another goat as a companion, but not a billy goat!

I should add though, that as well as giving milk and making the most devoted pet you've ever had, your doe or nanny goat will clean up your blackberries, docks and most weeds inedible to your other stock. In fact there will be times when she eats nothing else but weeds and leaves and ignores lush grass all around her. She must have a feed of hay every morning before she goes out to graze when there is a lot of greenery around — to prevent digestive upsets. This is important with a good milker.

In the autumn, when food is low, a goat will neatly ringbark all your trees and force down the fence around the veg garden if you don't give her plenty of hay and garden prunings and a mineral block to lick.

Most people who keep a goat in preference to a cow do so because for the amount of food (and the type of forage she selects) for the quantity of milk she produces, a goat is far more efficient, or economical, to keep than a cow.

I have just bought a 15-acre block with a house on it and have been fortunate previously to have been able to rent a place in the same district for two years. I have been able to try out my ideas and learn from the locals — rearing poddies, ducks, establishing pastures and a veg garden (strictly organic), learning how to build shelters, coops and enclosures, mending fences and keeping goats.

At one stage I had five goats — a rough Saanen goatling (who never conceived), two coloured goatlings bought cheaply, a neutered buck and a most adorable pure Saanen milker which cost me \$60. The first three were no end of nuisance, stomping down the fences they couldn't clear with five foot leaps, straying for miles, denting car bonnets and sleeping on their 'pellets' on the doorstep at night.

The only thing that would keep them out of the veg garden was an electric fence. So now I only keep the Saanen milker and the neutered buck which is as docile and friendly as a dog and a companion for the Saanen. I would love to try him on pulling a billy-cart!

A good doe only needs to be put into kid every two years. Any buck kids must be killed straight away or, better still, grown for a few weeks and given to people who enjoy

eating goat flesh. I agree with Abigail (EG14) that pure breeds can be a lot of trouble and the crossing of pure types give you harder goats without the inbred weaknesses — the Saanen seem to be most at fault. Mine should have British Alpine kids soon.

Earth people are always writing with advice which helps me, so I hope my advice can also be of value to someone.



BY IRIS DAWSON

I would like to comment on the article Abigail's Goats in Earth Garden 14. I have known Abigail for some years, through goats, and hope she will forgive me if I disagree with some of her statements.

The "lesbian" goat she mentions was probably an inter-sex. Goats, especially polled goats, have a high proportion of inter-sex kids, when compared with any animal offspring. It was neither buck nor doe, so would not breed.

The second goat, Hansel, was probably deficient in her diet. Australia is an old country geologically and the soils are often deficient in necessary minerals. It is worth while having the soil analysed and to add the trace elements which are lacking. The usual way is to include them in the super when you use this — but that is probably heresy to an Earth Gardener!

There are mineralised salt blocks which goats and other stock can lick. A copper and cobalt block cures many a goat with breeding problems. An injection of copper annually does the same job (heresy again?). The same was probably the case with several of the goats mentioned.

If they are not in good health, the milk is affected, of course. Worms will cause all sorts of troubles, and it is no use depending on a handful of pumpkin seeds, or a clove of garlic to get rid of these. There are so many different worms which can attack goats and other stock. Nilverm is one recognised vermifuge which will cope with them all. Use it regularly (every two months at least) and especially if the weather is warm and wet.

The goat which suckles herself: This can be caused by not milking her when she needs it. Perhaps she was a maiden milker and the owner did not realise that she needed to be milked. A bad habit like this is rare. Probably she is not worth persisting with, as it would be hard to stop her.

Eczema on ears: I have had knowledge of two or three goats with this. They also get it on the legs from knees and hocks down. One had it on her teat and another had it so badly all over that we shot her, after sending her to Werribee for advice from the experts there, who couldn't help her. It appears to be seasonal and the tendency to it heredity.

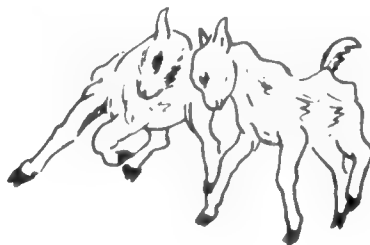
"Draggly" udders: The udder should be well-attached forward. Think of a basketball cut in half, attached up the back of the goat and well forward towards the navel. Of course you don't always get perfection! The skin texture is also important. It needs elasticity. If it is too fine and silky it will stretch with the weight of milk and not return when empty.

There are problems with the Anglo Nubian and British Alpine goats in this country, due to the few that were imported and the consequent inbreeding. However, there are strains of both that are fit, and good producers too, just as there are families that have a tendency to certain heredity defects.

Goats in the wild (feral goats), in the Flinders Ranges of South Australia for instance, are surprisingly well-built and quite big. These are the fittest, which survive for that very reason. While people keep goats they tend to rear the

weaklings along and thus perpetuate the weakness. An undersized, weak kid should not be allowed to live (more heresy?).

I agree with most of the rest of Abigail's article, except that I think it is necessary to vaccinate against entero-toxaemia. The factor which causes this is always present in the goat's intestines, waiting for a suitable set of circumstances to cause it to "explode". For example, if the goat gets too much of any food on an empty stomach and there is always a time when she does, they should have hay always available, should not be able to gorge themselves on green grass or clover, wheat or any other grain, any shrub or weed, or even vegetable. Moderation in all feeding is the key to feeding goats.



Australian Goat World Gems, published by the Victorian Branch of The Goat Breeders' Society of Australia, 48 pages. \$2.50 posted from E. O. Dawson, Victoria Road, Pearce-dale, Vic, 3912. (Cheques payable to GBS of A Vic branch).

This new booklet is a collection of articles on the care of goats from past issues of **The Australian Goat World**. Subjects covered include buying a goat, care and feeding, crops, housing, milking, breeding, hoof clipping, bucks, kidding, rearing, diseases and prevention, with practical advice throughout for beginners.

Australian Goat World, published six times yearly, is the magazine of The Goat Breeders' Society of Australia. Annual subscription is \$4 posted from Box 4317, GPO, Sydney, NSW, 2001.

Care of the Dairy Goat, Bulletin No. 3962, is available from the WA Department of Agriculture, Perth, WA, 6000. Send large SAE.

The Dairy Goat, W. J. B. Murphy,

I have had big, pure-bred goats for as long as, or longer than Abigail has had hers. We have milked up to 60 at a time, raised up to 50 kids a year, and kept several bucks for service always. Generally speaking, our goats have been a healthy lot. Several have been regular producers of 1-1½ gallons of milk daily, but we have never been keen on the "fluke" that produces world record figures. You only get those at the expense of the goats' health, in the long run, as Abigail says.

One more thing — my goats are kept in grass paddocks. Grass is not death to goats if one provides the roughage and minerals necessary for health and worms them regularly. Every blade of grass harbours worms, especially in warm, wet weather.

goat notes

mentioned in Earth Garden 3, is now out of print, but may be at your local library (with other good books on goats). Call or write to your nearest Department of Agriculture office to ask for advice and literature on keeping goats.

While we're updating, **The British Goat Society** is at Bury-St-Edmonds, Suffolk, England — not in Bury St, Edmonds, as it came over in EG3's series of goat articles!

Feeds and Feeding for Goats, compiled by the Northern Goat Club of Victoria, a 15-page booklet for beginners, has been revised and is available for \$1 posted from Mr K. Campbell, 138 Gosfield Road, Pantom Hill, Vic, 3759.

Annual subscription to the Northern Goat Club is \$1.50 and includes the quarterly magazine, **Goat Gossip**.

Two leaflets, **If I buy a dairy goat** and **Advice to novice goat-keepers** are available at 50 cents each including postage from E. O. Dawson, Victoria Road, Pearce-dale, Vic, 3912.

Basic beekeeping

BY JIM HALL

Keeping bees can be rewarding financially and can also be the source of a stimulating interest — all the more so if you like honey.

With minimum capital outlay very good returns can be made, often to the point where hives and equipment can be paid for in the first year or two at most. Few investments, particularly in the agricultural field, will pay off so handsomely in these times with so little effort by the keeper.

Honey is one of the few foods which will keep indefinitely, without refrigeration, and thankfully without preservatives. And it's a good item of barter (read about Fred Robinson's experiences in *'Honey is Money'* in EG1 for a heartening example of this).

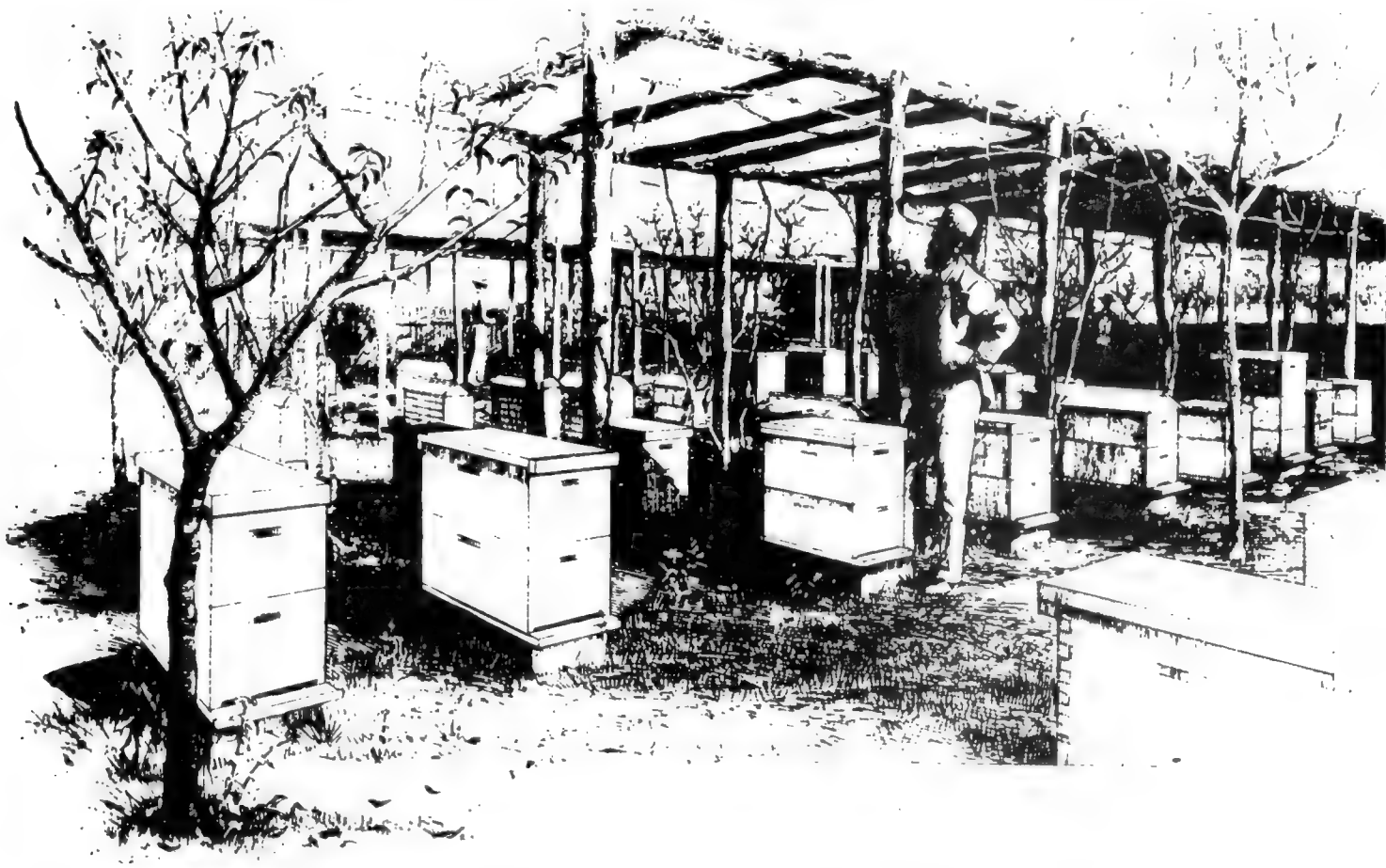
That stimulating drink, Mead, can be made from it and candles as an extra from the surplus beeswax, or this can be turned into money by selling it to comb foundation suppliers.

Vinegar can be made from the sweet washings of the comb scraps and cappings left after the honey extracting is over. Even propolis, or 'bee-glue', a gum substance the bees collect from some trees and buds and use for glueing the boxes together (and various other caulking, sticking and draught-excluding jobs), can be used as a base for, of all things, moustache wax!

To all this add what we owe the bee for its invaluable pollination of the various plants and we get a picture of a truly fascinating and remarkable insect.

Before delving too deeply into the keeping of the bee you will need a certain minimum of equipment, and you would be well advised to begin with one colony only. You may be able to buy used boxes, but these may have housed a diseased colony, so for your first colony it is advisable to start with new equipment.

From there, if you feel you have the resources and 'know-how', you could have a try at making your own.



A well-sheltered apiary, from *Australian Bee Lore*, by Albert Gale, 1912.

But unless you have a good supply of free or cheap timber, this is probably not worthwhile, particularly where frames are concerned.

If you make a start with just one colony in the manner described and heed the advice which follows, you will have gone a long way in eliminating those setbacks which sometimes, unfortunately, cause some of us to give up.

Freight on the beekeeping equipment is extra, but goods rail is still cheap transport.

Parts are 'in the flat' — that is in pieces — but may be easily assembled. Use only galvanised nails when nailing the box corners. Paint the joints well before assembling. Paint inside and out with at least three coats. Paint the lid, inner cover and bottom board (but there is no need to paint the frames).

The last coat should be either white or aluminium for the sake of reflectivity. Follow the usual painting instructions for new timber.

A third box for the hive, complete with frames, may be necessary if nectar is being brought in at a fast rate, as often happens. When all available cells are filled and the queen finds herself cramped for laying space, this may cause 'swarming', during which the queen leaves the hive with the bulk of the bees.

ASSEMBLING FRAMES

The frames may now be assembled and nailed. Use PVA glue in the joints as it makes it a stronger job. When the glue has hardened, say the next day, it is time to wire the frames to take the wax foundation.

Foundation is simply beeswax supplied in the form of a thin sheet, into each side of which cell shapes are embossed. In this way the bees are encouraged to draw out the cells in a regular manner with an even surface. This helps when 'uncapping' prior to extracting honey.

Bees secrete wax themselves, but use up honey in the ratio of about four parts to secrete one part of wax, so that it pays in time and honey production to supply foundation.

The ends of the frames are supplied ready drilled to take the wire, which should be carefully threaded through the holes, back and forth, and a small nail partly driven into the timber near the last hole. The end of the wire is then wound twice around the nail and the nail driven home.

Now the wire is tightened through each pass and wound, while taut, around a nail near the first hole. This nail is then driven home and the wire broken or cut off. Should a kink develop in the wire while threading, break it off at the kink and start again, as wire under strain like this will break sooner or later.

EMBEDDING

The frames are ready now for the wires to be embedded into the foundation. This is done best and most easily with an embedder, which can be simply made and works from a car battery.

Take a 1 inch x 1 inch piece of softwood, two feet long, and screw in five 2½ inch steel countersunk wood screws, all equally spaced along its length, with the outer two screws 15½ inches apart. Solder into the screwdriver slot of each screw a piece of sheet brass, or copper, 3/8th inch square to act as pressure points on the wire. File these carefully until they are all in line.

Take two eight foot lengths of car wiring cable and solder one each to the shanks of the end screws. Interpose an old set of car distributor points into one cable to make a simple switch and attach this to the timber at one end. Attach the other end of the wires to the battery

BEEKEEPING EQUIPMENT

The equipment you need to keep bees includes the hive body with frames and comb foundation, protective clothing and some tools.

Later, gear for extracting and purifying honey will be necessary.

You can get started with a two-box hive from a mail order catalogue, an apiarists' supplier, or buy equipment from friends or an amateur beekeepers' club. See *notes* for sources of supply.

A beginner's kit should include:

2 eight or 10 frame full-depth hive bodies; 16 or 20 frames; 16 or 20 medium brood comb foundation (13 sheets per kilo); wire and nails for frames and boxes;

inner cover; telescopic lid; bottom board; zinc or plastic queen excluder;

smoker, stainless steel or galvanised iron; hive tool; net veil to protect neck and head; feeder, if needed; bee-brush; gloves.

At current rates, this will cost about \$45 (late 1976) and is subject to change.

terminals.

Place a sheet of wax into the slot of the top bar on the frame, and under the wires — wires uppermost. Place the frame and wax on a board cut specially to suit and rest all contacts of the embedder on the wire. Flick the switch and the wire will heat and sink into the wax.

Properly embedded, the wire will show intermittently in each side of the wax, that is in the bottom of each cell impression. Don't overdo the heat or the wire will sink right through the wax, cutting it in two. A little practice will soon show you the degree of touch necessary.

Keep switch contacts clean and make sure the electrical connection with the battery is good or the embedder will only work intermittently. There are four wires to embed in each full depth frame.

THE BEES

Now for the bees. Three avenues are open to you in procuring your first colony:

1. Having a swarm which has absconded from someone else's hive and has settled somewhere accessible;
2. Buying a hive complete from another keeper;
3. Buying a nucleus colony from a recognised breeder.

In 1, you could wait years before you learn of a swarm.

In 2, you could be buying someone else's problems, such as an ageing queen of doubtful fertility, or a colony infected by diseases, or even bees of a vicious strain or nature caused by a failed or missing queen.

All considered, buying a nucleus hive does appear to be the best bet. The cost will be about \$22, depending on quality, number of bees included and so on. The nucleus comes complete with a fertile queen.

THE QUEEN

You would be wise to place your order early for spring delivery and request that the queen be clipped and marked with coloured lacquer. When this is done, one wing is clipped off about halfway down. The clipped queen is not able to abscond with a swarm and may be found on the ground near the front of the hive, perhaps with a small cluster of workers.

She can be placed carefully back at the entrance, and, perhaps, driven in with a puff of smoke. The swarm

will have flown off, but will return when they find they are minus the queen.

Marking the queen is a wise precaution. She may be readily spotted and removed when re-queening the hive is necessary, perhaps in the following year. Also the queen is sometimes difficult to spot in the darker breeds of bees. There is generally no charge for clipping and marking. Request also that the bees and particularly the queen you order be from a docile breed such as the Caucasian.

THE SITE

While waiting for your bees it is wise to choose the site, clear and level it and assemble your hive. In hot climates a shady spot under a deciduous tree makes good sense. They will be shaded in summer and sunny in winter. If the hive is left out in the open in summer, more bees spend their time fanning the hive (to reduce the temperature and for ventilation), and collecting water for the evaporative cooling 'system' which exists within. This reduces the field force of workers which would otherwise be off collecting nectar and pollen.

You can't move the hive a few feet if you've made an unwise choice for the site as the bees will fly back to the former site. However, if you find that it must be shifted, it can be moved only a matter of inches each day until the new spot is reached. The inlet slot at this time must face the one same direction. If the hive is to be moved more than two miles the bees will not return to the old site.

Build up nine inches of housebricks back and front and add the bottom board. See that it slopes slightly to the front to drain wind-driven rain. A good height from the ground will stop the bottom board from rotting. See that it is free from wobble, then add the first box or 'brood chamber' complete with frames.

Now add the top box or super complete, then the inner cover followed by the lid. Complete the picture by laying a flat stone on top to keep the whole thing secure from the winds and await the arrival of your first colony.

When the nucleus arrives take off the top box and introduce the bees into the bottom box to the supplier's instructions, but this time place the queen excluder on the box. The queen excluder is a perforated zinc or plastic sheet. The size of the holes restricts the queen bee to the bottom box, but allows free passage to the workers. This keeps brood-rearing confined to the bottom box, so that the queen can't lay her eggs in the comb kept for honey in the upper box or boxes.

Over the excluder add the top box complete with frames, inner cover and lid. In this position this box, though it is otherwise the same in all respects as the bottom box, is termed a 'super', that is a box used only for the depositing of surplus honey.

There are however standard shallower boxes and frames available which can be used as brood boxes if no full-depth boxes are available and these are sold as 'supers'.

Brood boxes are generally full-depth boxes — 20 inches long x 14 inches wide x 9½ inches deep, and the frames to suit are 9 1/8 inches deep. Other size supers available are 7½ ins, 6 ins and 5 ins depth, with frames about ½-inch less in depth to suit.

Place a flat stone on top and in a short time the bees will be working at their allotted tasks, some drawing out comb into cells from the foundation you have supplied and other workers out in the field gathering nectar, pollen or propolis. The queen will be preparing to lay eggs in the cells as they are completed, thus guaranteeing the continued strength of numbers of the colony.

When hatched in spring, a bee literally works itself to death in six weeks or so, and heavy laying by the queen is required at this time.

Keep animals away from your hives as they tend to scratch themselves against the boxes, sometimes with disastrous consequences to the hive and painful results to the animal. It's best to enclose the hive in a sturdy fence if on a farm.

Finally, some important points:

(a) No matter which way you begin, make sure the queen has been clipped and marked. It makes beekeeping so much easier.

(b) Start with two boxes only, separated by a queen excluder, the queen therefore being confined to the bottom box.

(c) Add another super if the queen appears crowded for room when a good honey flow is on.

notes

These notes revise the Sources listed in *A Pleasant treatise on the honey-bee* (Earth Garden 4).

SUPPLIES: Write for free illustrated catalogue: John L. Guilfoyle (Sales) Pty Ltd, PO Box 18, Darra, Qld, 4076.

Pender Bros Pty Ltd, PO Box 20, Maitland, NSW, 2320 (or look up local agents in yellow pages of each State).

Price list is available from Beeline Apiaries (Mr N. Redpath), 21 Capella Crescent, Moorabbin, Vic, 3189. Also queens and nuclei.

QUEEN BEES & NUCLEI: Macleay Valley Apiaries, Crescent Head Road, Kempsey, NSW, 2440.

Norman V. Rice, PO Box 95, Beaudesert, Qld, 4285.

Camellia Apiaries, 390 Hellawell Road, Sunnybank Hills, Qld, 4109.

John Milton, 15 Arthur Street, Tranmere, SA, 5073.

B. W. McCahon, Lake Road, Daylesford, Vic, 3460.

JOURNALS: The Australasian Beekeeper, issued monthly, \$6.60 annually from PO Box 20, Maitland, NSW, 2320.

Australian Bee Journal, issued monthly, \$6 annual from PO Box 137, Noble Park, Vic, 3174.

The New Zealand Beekeeper, quarterly, \$NZ7.50 annually, from Box 176, Casterton, New Zealand.

LITERATURE on beekeeping is available from the Department of Agriculture in your State.

HIVE REGISTRATION: Check with the Department of Agriculture in your State for details. Registration is compulsory. As a guide, \$2 annually will cover from one to five hives in NSW.

AMATEUR BEEKEEPERS: We strongly recommend that people beginning an interest in bees join one of these groups. Send SAE when inquiring.

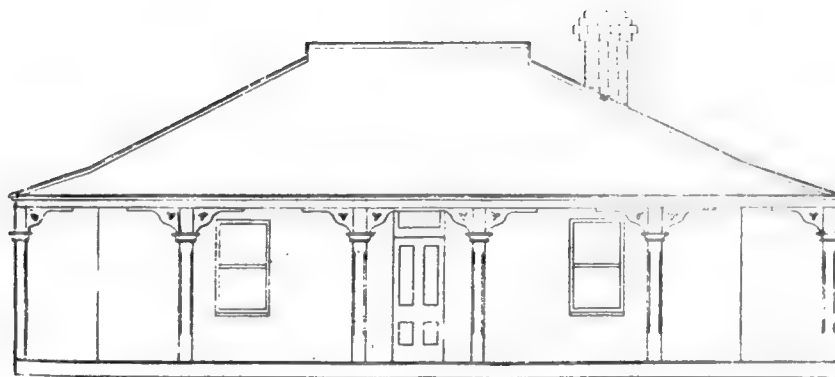
Amateur Beekeepers' Association of NSW, Sec C. Mettam, 95 Waratah Street, Brighton-le-Sands, 2216.

Amateur Beekeepers' Society of SA Inc, Sec Mrs Gwen Haensel, Box 41A, GPO Adelaide, 5001.

Amateur Beekeepers' Association of SE Queensland, Sec J. R. Mackenzie, 113 Burbong Street, Indooroopilly, 4068.

Capricornia Beekeepers' Club, Sec Box 523, Rockhampton, 4700.

Victorian Apiarists' Association, Amateur Section, Sec Mrs A. Sears, Jodi-Kalu, 24 Ponds Drive, Lara Lake, 3212.



PIONEER PISE

BY GEORGE L. SUTTON

(Reprinted from *The Farmers' Handbook*, 1911)

In most districts slabs or weatherboards with bark or iron roof are the first materials that suggest themselves to the home builder. For our climatic conditions, however, a much more comfortable, and, in many sparsely timbered districts, more economical dwelling can be made of pise.

Pise is a material readily obtainable by the settler, of which cheap and durable buildings can be easily and substantially erected. Such buildings possess the advantage of maintaining a fairly uniform temperature throughout the year. They are warm in winter and cool in summer, and therefore possess distinct advantages for a climate such as prevails over a wide area of New South Wales.

For the construction of pastoral agricultural buildings, especially in districts remote from railways, or from towns in which other building materials are cheap or easily procurable, pise, which is simply earth or soil shovelled into temporary casings, which regulate the forms and dimensions of the walls required, and then rammed until thoroughly solid, is particularly well adapted.

In the country earth is plentiful and readily obtainable; in the city or town such is not the case, and this fact, combined with the very bulky nature of the material, prohibits its use in such centres of population.

To the selector or settler, who, like many of our successful pioneers, is not burdened with a superfluity or hard cash, but who possesses an abundant capital of energy, combined with a certain amount of handiness, pise has an additional advantage (which it shares with slabs, wattle and dab, etc) over most other building materials, in that it affords him an opportunity of erecting his homestead largely as the result of his own labour.

As a building material, pise is infinitely superior and more durable than slabs, galvanized iron, or weatherboards. In fact it is questionable whether it is not more suitable for our climate, and therefore to be preferred to brickwork: for pise buildings, properly protected and finished, are quite as durable and much cooler than buildings constructed with solid brick walls.

Just as with other building materials, the possibility of this material can only be judged by an examination of properly planned and constructed examples of the pise builder's art. Such are found here and there throughout the country, pleasing to look at, affording comfort and satisfaction to their owners.

A properly constructed pise building can be finished to suit the taste of the most fastidious. Even without plaster the walls can be "floated" down and a "skin" obtained on them which, when limewashed, resembles stonework. When plastered inside and out they possess the advantages of a stone house, and are erected at a fraction of the cost.

Pise work is very slightly dearer than galvanized iron and studding, cheaper than weatherboards, and about half the cost of 9-inch brickwork.

Some idea may be formed of the durability of pise by the fact that there is at present (1911) at "North Logan" a stable built of pise which has been in constant use for over 60 years, and which at the present time is in good order. The good condition of this stable is the more surprising because the external walls are unprotected from the weather, and it is generally recognised that pise work, especially if unplastered, should be protected from the direct action of rain.

Pise buildings are said to have a life of a century and a half.

The stability of pise buildings is beyond question, as is proved by the following instance: — at Lambrigg, a second-storey brick building, with 14-inch walls, and containing 10 rooms, is built upon a lower storey of pise. The bricklayer who had the contract for erecting the brick portion of the house refused, as it was built upon pise, to guarantee his work. Some time after the completion of the house he visited it, and after a thorough examination of the building declared that it was the most substantial brick house in the district, as it had not a crack in it, a feature that was somewhat unusual in that locality.

Another case bearing on the same subject is that connected with the residence of Mr A. Donaldson, Sproule's Lagoon, Temora (NSW). When this building was being constructed the workmen omitted to leave holes for the bolts which were to secure the verandah



Pioneer pise, showing formwork box and soil being shovelled from a horse and cart.

plates to the walls, as it was thought these could be readily bored out afterwards with an auger.

On attempting to bore out these holes on the completion of the building, and when the pise work had become drier, the operation of boring proved so difficult as to be practically impossible, and had to be abandoned. Fortunately, by slightly raising the position of the verandah plate it was possible to make use of the holes left when the bolts used for holding the "boxes" together were withdrawn.

The merits of pise work have been recognised in France, India, Mexico, and California for years past, and seeing its equal suitability for our climate, it is surprising that these merits have not led to its being more extensively used.

The actual erection of pise work presents so little difficulty that it can be done by anyone who has sufficient strength to shovel earth and wield a rammer, pro-

vided he will exercise sufficient care to see that the moulds or boxes, into which the earth is shovelled, are kept plumb and in straight lines.

The average settler, even with no previous knowledge of pise work or building construction, need have no hesitation in undertaking the pise work of his own buildings if he works to a well thought-out plan drawn up by somebody competent to do so. That this statement is not overdrawn is proved by the fact that the pise work of the cottage illustrated here, was done by men who had no previous experience of pise work or building construction, but who were accustomed to and are employed for the ordinary work of the farm.

The necessity of having a plan prepared by someone who understands the principles and requirements of simple building construction, before undertaking the erection of any building, cannot be too strongly emphasised. Even when a settler undertakes

the pise work of his own building, it will only be in rare instances that he will not have the advantage of trained supervision during its erection.

The services of a tradesman will invariably be found necessary to make doors and window frames, construct the roof etc. This workman can be engaged when the building is started, and whilst preparing the timbers of the roof (in readiness for the time when they will be required on the completion of the pise work), can supervise the fixing of the door and window frames, and see they are set correct and in their proper places.

BOXES

Pise walls are constructed in sections, the extent of which is regulated by the supply of casings available. These casings (or boxes) regulate the shape and thickness of the walls and the height of the sections, and are made of stout planks held together by ledges or cross-planks, which should be stout enough to keep the "boxes" from warping.

The dimensions of the boxes are optional, but vary chiefly with regard to width; this ranges from 12 to 36 inches. This latter width was adopted when making the boxes used at the Cowra Experiment Farm, and it has proved very suitable and convenient. There seems no substantial reason why narrower boxes are to be preferred.

The maximum size for convenient use may be taken to be about 10 feet long and 3 feet wide. The boxes are put together so as to form moulds corresponding to the shape and thickness of the walls to be erected. They are held together by 5/8th-inch round iron rods, and kept the required distance apart by the use of pieces of batten or scantling cut to the necessary length, ie, the thickness of the walls.

As the earth is filled in the gauge battens become unnecessary, and are removed by the workmen. The rods referred to (known as "bolts") have a square bolthead at one end, and have holes punched at various distances from the bolthead to correspond with the varying thicknesses of the walls to be erected.

Into the moulds formed by the boxes the earth is shovelled in layers of 4 or 5 inches, and then rammed until thoroughly solid before another layer is put in. On the completion of the section — when the mould is full and well rammed — the keys or pins are knocked out of the "bolts", and the boxes taken apart and erected on another portion of the building.

The top of that portion of the pise work on which it is proposed to erect another section should be well moistened and covered with wet bags some hours before the mould is formed.

The bottom of the mould should overlap the top of the pise work by about 6 inches.

After the boxes are put together, the top layer of pise should be loosened with a pick so as to form a bond with the section about to be built, and if this section adjoins one already built, the ends of the latter should be bevelled off so as not to form a straight longitudinal joint.

SOIL

Almost any earth containing a fair amount of loam is suitable for pise, but a pipeclay loam, with which gravel is intermingled, is best. Soil which cakes after a heavy rain, or which, if ploughed or dug, when dry turns up in hard clods, is very suitable. Material which is too sandy will fret away, and one containing clay will crack when dry. Soils containing these defects should be avoided.

There is, however, such a wide range of soils which

are suitable that a holding of any size on which suitable soil cannot be found will be the exception. It is possible to remedy the defects found in one soil by mixing it with another soil, but very rarely will such a course be necessary. Any vegetation growing on the surface of the earth selected should be removed, as also should any roots, bits of stick, or vegetable matter likely to decay.

The earth is best used as it is dug, and if too dry should be brought to the correct moist condition by watering it, about two days before it is to be used. No amount of tempering after it is dug will render it as suitable as watering in the solid as described.

The earth should be just moist enough to be crumbly, and yet adhesive enough to retain the impression of the fingers when pressed in the hand. If too moist it will stick to the rammer and work up squashy; if too dry, it will work up loose under the rammer. If in that condition which is best adapted for ramming a fence post, it is just right.

PLANT

The plant required will depend upon the number of men to be employed. Three is the least number that can be economically employed — two attending to the boxes and ramming, and one carting earth from its location to the building and assisting generally.

The necessary plant will consist of:— 2 wooden rammers, 1 iron-shod rammer, 2 straight boxes, 2 angle boxes, 3 casings for blocking up the end of boxes, bolts and keys for the same, 12 gauge rods, washers — a liberal supply of 3/4-inch washers, 2 shovels, 1 spade, a horse-and-dray, or other means for transporting the material to the building.

RAMMERS

The wooden rammers are made from hardwood, cut to the shape and dimensions shown here. These rammers are used for consolidating the bulk of the material after the corners and faces have been rammed with the iron rammer, which is a piece of iron or steel about 10 inches long, with a shank 11 inches long, forged to the shape of a right-angled triangle and bolted to a wooden handle.

RODS AND WASHERS

The gauge rods to regulate the thickness of the walls are made by cutting battens or round sticks into pieces as long as the walls are to be thick.

An abundant supply of washers is necessary in order to facilitate tightening the boxes to the width as regulated by the gauge rods. Wooden washers are very useful for placing next to the side of the box, and especially at joints. They are easily made by boring 3/4-inch holes in short lengths of battens.

MOISTURE

The rammed earth (pise) when dry is very hard, and in this state it is very durable. Moisture in any form softens it, and so changes its character that it becomes susceptible to injury.

It is obvious, therefore, that pise should be protected from moisture in any shape or form. The danger from rain is apparent, and is guarded against by surrounding pise buildings with verandahs or overhanging eaves. Pise buildings unprotected by verandahs are not uncommon, but the economy of protecting such buildings from the direct action of rain is now generally recognised.

The danger from the moisture contained in the soil on which the building rests is not so apparent, but it

Making boxes

The boxes can be made of any wood which will not twist or warp easily. It is an advantage to have it light and tough. Because of this cedar is the most suitable timber, but its scarcity and high price renders its use prohibitive. The boxes used at the Cowra Farm were made of redwood, and gave great satisfaction.

The size of the boxes will be governed, to some extent, by the amount of work to be done. Obviously, no one will be willing to spend a large amount for materials to make boxes for the erection of a small building.

For a small building, boxes 2 feet deep will be suitable: but for a larger building, or for several buildings, it will be found economical to have the boxes 3 feet deep. Whether the boxes are 2 feet or 3 feet deep, the construction will be the same.

The planks, 12in by 1in, or 12in by 1½in, which should be planed on one side (the inside of the box), are braced and held together by 4in x 1in ledges. These ledges are preferably spaced so that, in addition to holding the planks together, they stiffen them at the places where the bolts, which hold the boxes together, go through them.

Two of the straight boxes will require to be fitted with iron attachments, so that they can be secured together at right-angles to each other, and thus, together with the angle-boxes, form a mould for making external corners. These attachments or plates are made of ¾-inch x ½-inch flat iron, and are about 1ft 3in long. One of the pair, at 'a' in Figure 2, is shouldered to fit at one end a ½-inch round pin, which is threaded to take a nut. When the boxes are fitted up, this bolt end passes through a hole in the other attachment shown and is screwed up as tight as is required.

Where more than two straight boxes are available some of them should be fitted with 2in x ¼in flat iron plates, punched with ¾-inch holes. These plates should be bolted loosely to the ends of the boxes, as shown at 'c' in Figure 2 (left-hand side), in such a position that the holes in them will correspond with the ½-inch holes in the



Fig. 1 — A straight box, without extension plates.

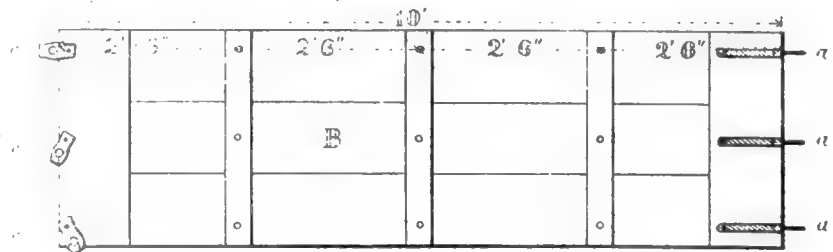


Fig. 2 — Straight box, with pin 'a' and plates 'c' for joining boxes.

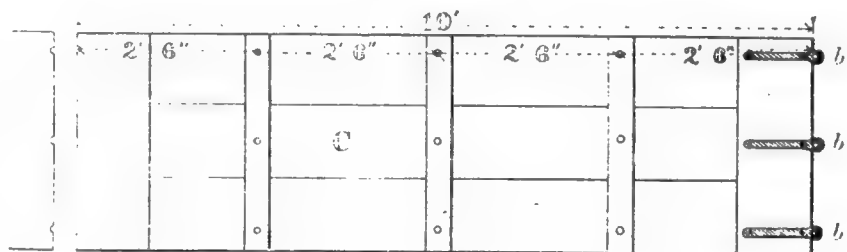


Fig. 3 — Straight box with holes 'b' to fit pins.

box. These plates prove very useful when joining one box to another.

A convenient length for the straight boxes is 10 feet. The angle boxes consist of two sections, permanently secured at right-angles to each other by means of braced angle brackets, which are placed so as not to be in the way of the bolts which hold the boxes together.

When the external walls are to be 18 inches and the internal ones 15 inches thick, a convenient size for the angle boxes is to have one arm 3 feet 1½ inches and the other 8 feet 1½ inches long, with the holes spaced as in the illustration. With this spacing the holes will coincide with the holes in the straight boxes when both are set up to build in a cross wall. If additional boxes are available they can be continued on

indefinitely without the necessity of boring fresh holes.

If the thickness of the walls are other than those given, the length of the external angle boxes will be slightly different from that shown, and will be governed by the position of the first hole from the corner. For the holes in the angled box to correspond with the holes in the straight box, when fitted up, the distance from the corner of the first hole in the angle box should be half the difference between the thickness of the internal walls and the distance at which the bolt holes are spaced — say, 2 feet 6 inches, which has been found about right.

The bolts, which together with the keys are used for keeping the boxes in position, are made of 5/8-inch round iron, with tapering keyways,

as shown in Figure 5. The distances of the keyways from the head of the bolt are those suitable for 15-inch and 18-inch walls, when boxes built of 1½-inch timber and 1-inch ledges are used.

The keys are made of 1/8-inch flat iron, as shown in Fig 6.

The sections for blocking up the ends of boxes are made of the same material and in a similar manner to the boxes. The photograph below shows how the ends are constructed.

Their length corresponds to the height of the boxes, and their width to the thickness of the wall being built, or to the space — at window or door frames — to be blocked in. They are kept in position by the bolts which hold the boxes together, and, when necessary, by packing between the ends and the bolts.

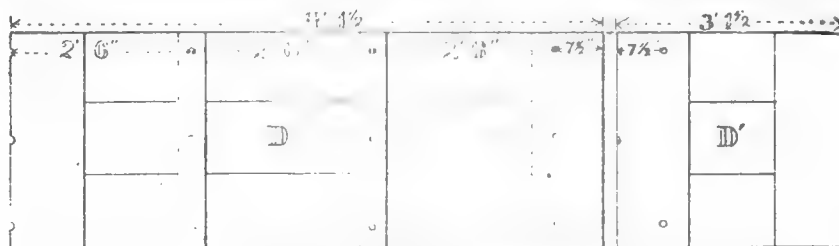


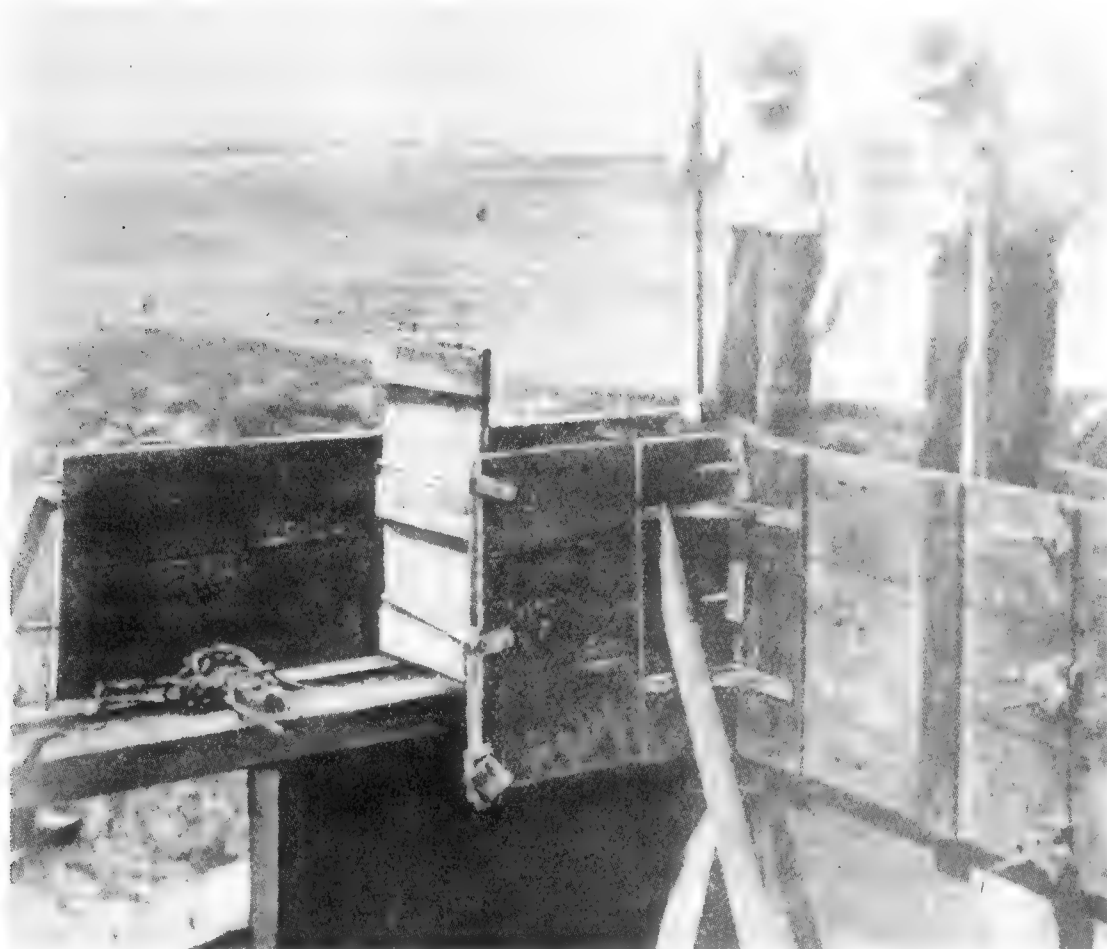
Fig. 4.—An angle box, showing cross brace.



Fig. 5.—Bolt.

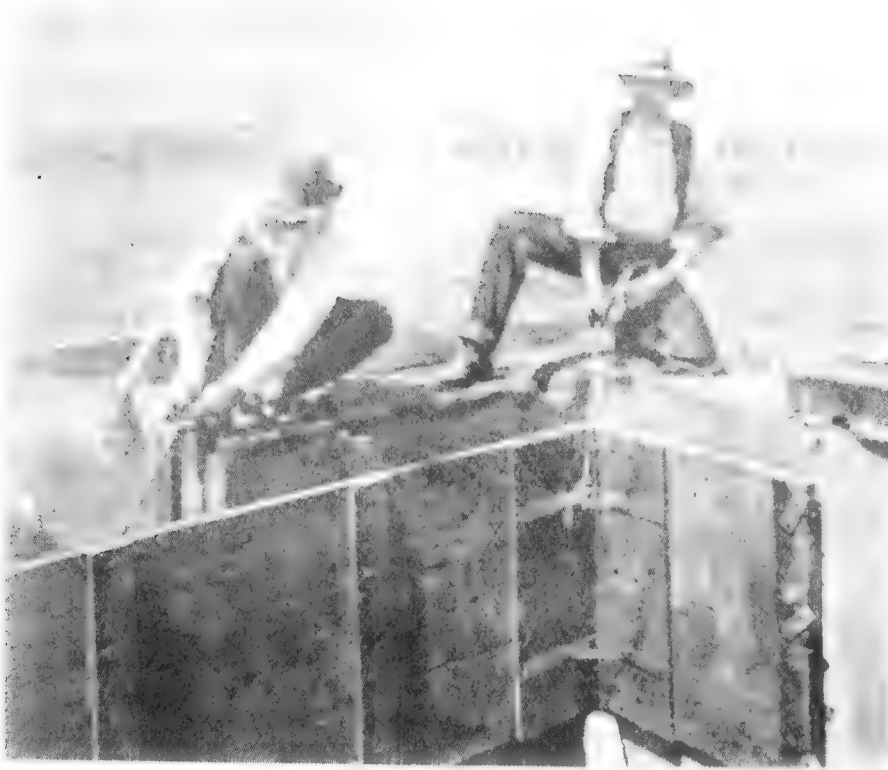


Fig. 6.—Key.



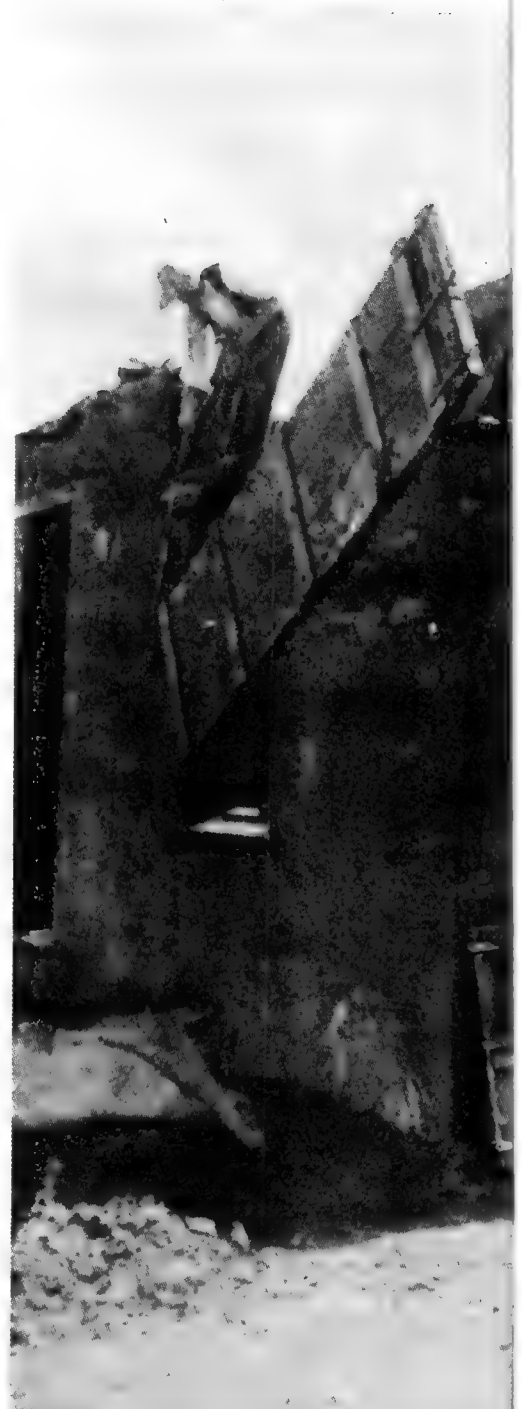
A partition wall bonded in, with details of the section blocking the end box at left. At right, workman is using an iron right-angled rammer.

Up go the walls



Step 1 — Top left: In fixing a box on the upper levels, the corner box is first raised as shown.

Step 2 — Above: It is then propped up and levelled.



Step 3 — Above: Next, one of the straight boxes is raised by putting a bolt through one of the holes near the corner.

nevertheless is a real one. The moisture, by the force of capillary action, will rise up into the walls and affect their stability, as well as affect the health of the inmates.

This danger is recognised in the building trade, and in brick buildings is guarded against by the insertion of a damp-course of non-porous material, such as slate or asphalt, at the floor level. In the case of bricks, which are unsoftened by moisture, this is a suitable place for the damp-course, but in the case of pise it should be inserted at ground level and underneath the bottom of the pise work.

DAMP-COURSE

Provided the grass and other vegetation is removed, pise work can be built right on the surface of the ground (but this is not recommended — see notes). Precaution should be taken to prevent the efficiency of the damp-course being destroyed by accumulations of soil against the wall. If this be neglected, moisture will gradually rise up through the accumulated soil in the same way that water rises up through a sponge, and thus destroy the effect of the damp-course. When, in order to obtain sound ground to build upon, excavations are necessary, the foundations should be of stone, concrete or bricks, which should be carried above the ground level.

VERANDAH

The expense entailed by the erection of a verandah may be regarded by some as a reason against the adop-

tion of pise as a building material; but who will say that, in a climate such as extends over a great portion of this State, a verandah is unnecessary to protect our buildings from the heat and glare of the midsummer sun.

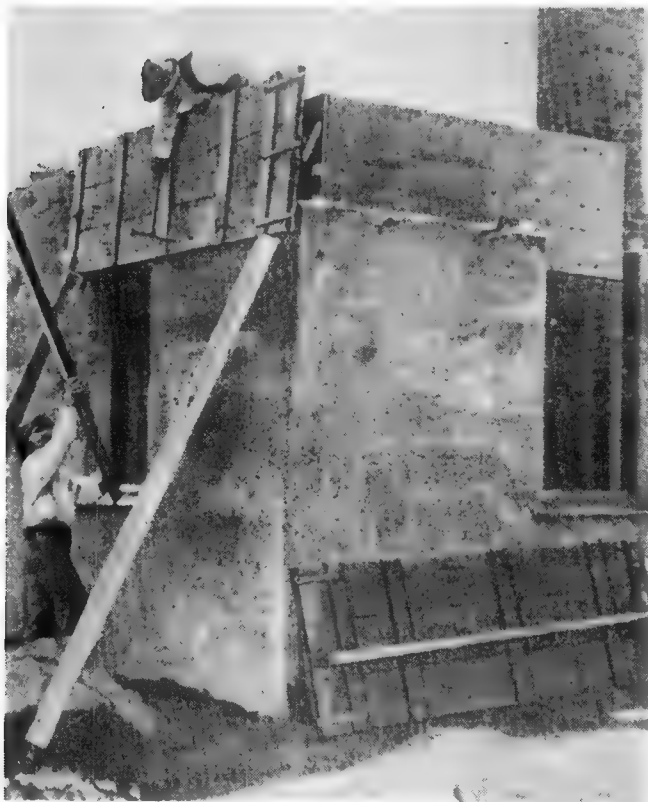
VENTILATION

As air does not readily penetrate through pise walls, it is specially necessary that the provision made for ventilation should be ample. This is a matter often neglected, and in consequence such badly ventilated houses are unhealthy and the rooms "stuffy" and "sweaty".

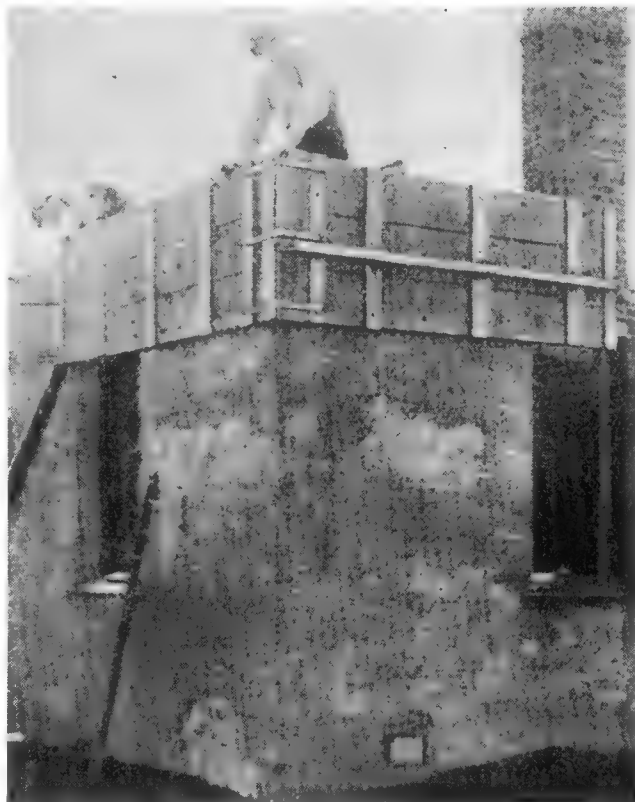
There is no difficulty in ventilating pise buildings properly. A convenient way is to make rectangular boxes of wood or concrete, the ends of which are covered with ventilating gratings. These boxes are made as long as the wall is wide, and are built in the wall as it is being erected.

TIMBER

The timber used in the construction of pise buildings, for frames, lintels, sills etc, should be well-seasoned. Otherwise, on drying, it is likely to shrink away from the pise and leave an unsightly crack. On account of the difficulty of obtaining seasoned timber, it is advisable to use no more than is absolutely necessary; and because of the simplicity with which concrete blocks can be made, it is recommended that concrete sills and lintels be used instead of wooden ones.



Step 4 — Two of the straight boxes form a right-angle on being bolted together. After this it is propped up and held in position by bolts which rest on the wall already built. In the photo the bolts are being driven home.



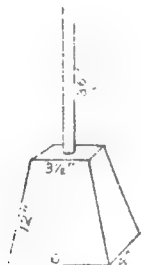
Step 5 — When the other straight box has been raised they are screwed together. After levelling the bolts are put in to stop the forms spreading. Photo shows the corner formed in this way secured by cross bolts.

A serious defect met with in some pise buildings is that the internal walls are erected independently of the external walls, and after the latter have been completed. There is, in consequence, no bond between them, and what should be a source of strength to the whole building does not reinforce it in any way. The invariable result is that, as the internal walls dry, they shrink away from the external walls, showing a division which can never satisfactorily be filled up or hidden.

Pise has its limitations; it is quite unsuited for elaborate or complicated architecture; but a careful man has in this material the means whereby he can build plain, substantial, durable, and comfortable buildings very cheaply.

Pise may be finished to resemble concrete or stonework by plastering it; but this operation should be delayed until the pise work is thoroughly dry, otherwise the plaster is apt to scale off. The plaster used should be very "poor" or weak, as it is found a poor plaster adheres more firmly to the walls, which, before they are plastered, should be roughened with a rake or other similar tool.

Cement should not be applied to pise. It is rarely, if ever, satisfactory, as is — even a thin wash — invariably peels off in thin flakes. The most satisfactory method of colouring pise is to limewash it.



Wooden rammer

notes

This article on pise building was written by George Sutton of the Experiment Farm at Cowra, NSW, some 65 years ago. It had strong influence on later research and building in earth materials here and elsewhere. For example, the authors of *Building in Cob, Pise and Stabilised Earth*, published by Country Life in 1920, based their construction of an apple storage shed on these plans.

More detailed layout for building a cottage were also given, but these have been outdated by the more recent work of G. F. Middleton. There was no provision for features like electric wires and running water in the old plan. The two works are invaluable to the pise builder.

The Farmers' Handbook, compiled by W. H. Clarke, Department of Agriculture, NSW, 1911, 748pp.

Build Your House of Earth, G. F. Middleton, Compendium, 1975 (first published 1953), 110 pp. (See also EG3 & 12).

Building in Cob, Pise and Stabilised Earth, C. Williams-Ellis, and J. & E. Eastwick-field, Country Life Ltd, 1947 (2nd edition).

(Suggested by Margaret Rawson)

feedback on a miracle pump

By NED CORBEN

Our farm here is going really well and I am virtually self-sufficient in veges. The family and friends join me on weekends and we are busy planting, building a solar hot water system, making a pise room, a waterwheel, eradicating nasty weeds and generally working towards the good life and enjoying every moment of it.

We are desperate for the company of other sane people and invite people who are interested in buying land round here to camp on our farm while they are looking around. I've been biking around with Parish Plan in pocket looking for and making written descriptions of all the suitable blocks around, especially those with permanent rivers or streams, to help people with their search.

Of late, our main project has been to instal a water system fed by a **hydraulic ram**. This has been enormously successful and makes me wonder why on earth its use hasn't been more widespread.

Since reading the articles in *Earth Garden II* about hydraulic rams, my family and I have installed a ram-fed water system on our farm in south-east Queensland.

We managed to pick up a rusty, old and disused **Billabong** ram, which we restored to as-good-as-new condition with a lot of scraping, cleaning and painting.

We then laid 600 feet of three-inch PVC pipe along the side of our creek from an upstream pool to a "header" tank. From there the drive pipe falls 15 feet to the ram, which is set firmly on concrete near the stream bed.

Its outlet or "delivery" pipe then takes off up the creek bank and leads eventually to a large water storage situated 115 feet above the stream.

The **Billabong** hydraulic ram shown is a delightfully compact, simple and heavy little machine. One could hardly provide a more appropriate example of technology at its best.

Ours is a Number 5 and costs about \$200, but they are made up to Number 12, costing over \$1000. If you buy one you will be supplied with information concerning its "pumpability", desirable length of drive pipe, quantity of water needed to power it, fall of water required, and so on. All these specifications should be thoroughly heeded.

As Di Mercer mentioned in EG11, the hydraulic ram is indeed finely balanced in its operation. Its working principles are simple enough. But in practice, analysis of the variable factors which affect its operation proves to be somewhat vague and far more complex than one would think.

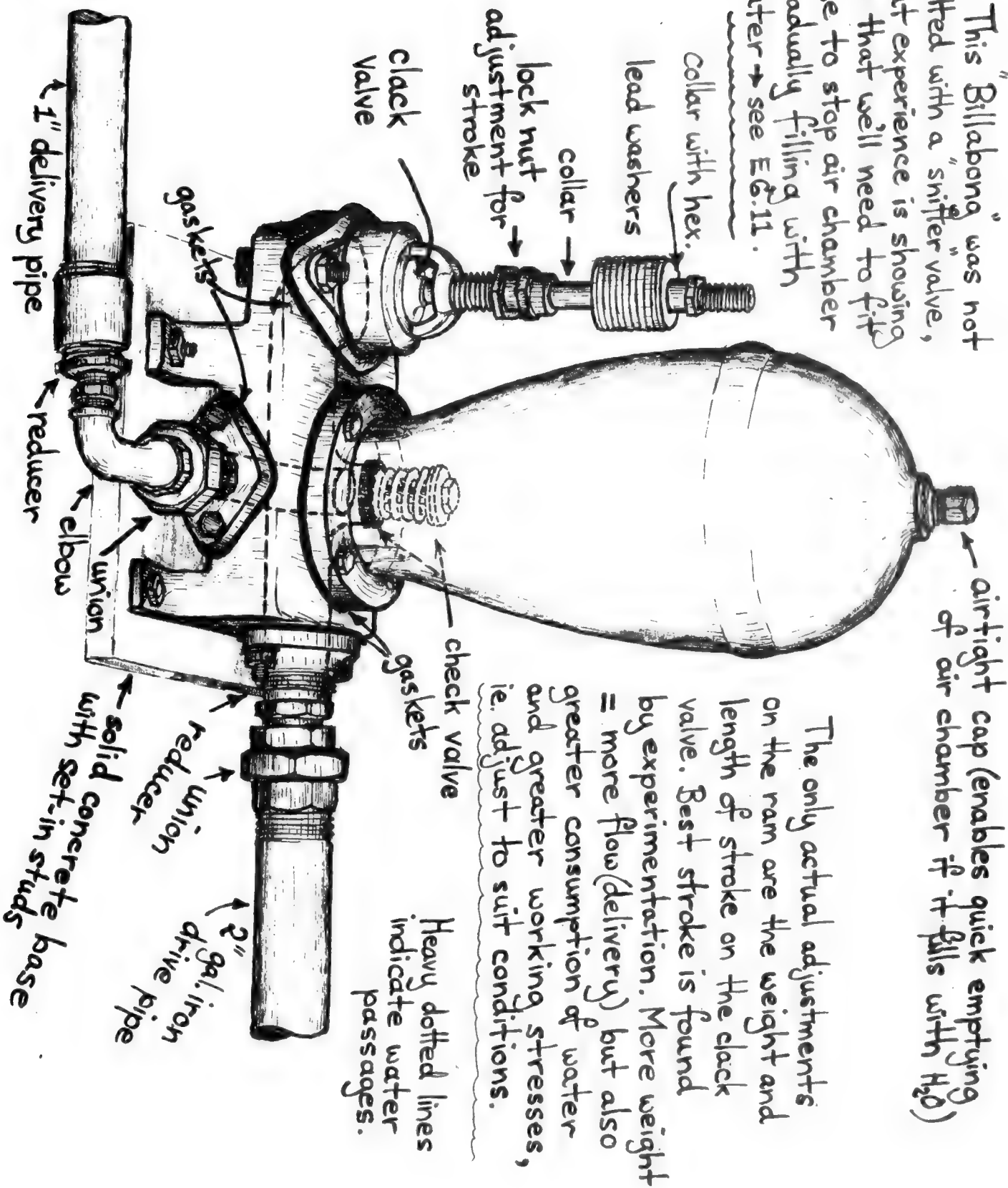
These variables include the diameters of the drive and delivery pipes, the length of the drive pipe, the length of stroke and the weight of the clack valve, the spring pressure exerted on the check valve, and the height to which the ram pumps — and thus the back pressure of water in the delivery pipe.

This "Billabona" was not fitted with a "sniffer" valve, but experience is showing us that we'll need to fit one to stop air chamber gradually filling with water → see E.G. 11.

airtight cap (enables quick emptying of air chamber if it fills with H_2O)

The only actual adjustments on the ram are the weight and length of stroke on the clack valve. Best stroke is found by experimentation. More weight = more flow (delivery) but also greater consumption of water and greater working stresses, i.e. adjust to suit conditions.

Heavy dotted lines indicate water passages.



In fact, we have questioned a number of civil and mechanical engineers about its operation and find that no one really understands the physical relationships between these variables. It seems that all that can be safely said is that the correct adjustment of these variables relative to each other is fairly critical to the satisfactory functioning of the ram.

necessary. In any case, it was removed during a "process of elimination", by which we sought to solve the ram's initial behavioural problems.

The length of the drive pipe specified for the Billabong No 5 was 95 feet but, for topographical reasons, ours ended up being 120 feet long.

Again, we don't know if, or how, this deviation affected the ram's operation. Being satisfied with its present output, we probably never will.

For many weeks after installing our ram we could not make it perform properly. Whereas it will normally start when one simply pushes the check valve down once, we had to then keep working this valve for a good few minutes before it would operate itself.

Then the ram would suddenly stop — seemingly for no reason — or the air chamber would mysteriously fill with water, reducing its output flow of water to nil. All these problems were explained when we discovered that the check valve wasn't seating properly, because of the age-worn irregularities on its hard rubber face.

We simply inverted the rubber, so that its unworn side connected with the valve seat. This solved our problems completely and simultaneously caused the ram to consume far less water in a given pumping period, although we haven't the faintest idea why.

This taught us the lessons that the check valve must seat **not well but perfectly** for efficient pumping. You can easily tell if it does or may by stopping the ram and filling the delivery pipe with water. The valve is crook if the water runs back down this pipe after it is full, or it runs away so fast that you can't fill the pipe anyway.

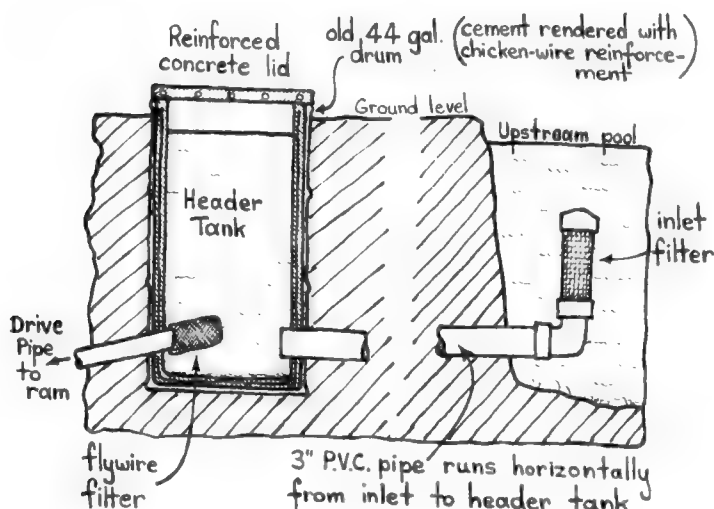
As we ran the delivery pipe further uphill towards the water-storage tank, we did several tests at certain heights to see what flow the ram produced. At 40 feet, output was about 1 gallon per minute. Expecting a gradual decrease in flow as we gained height, we were amazed and joyous when, at 60 feet, output had doubled to 2 gallons per minute.

On reaching the final height of 115 feet, the flow was back to 1 gal/min but still ample for our requirements. Obviously then, the back-pressure of water in the delivery pipe profoundly affects the volume the ram will pump, but in a manner as yet, it seems, unexplained and quite different to the way it affects an ordinary motor-driven pump.

Incidentally, the article in EG11 said that "the ram will lift water 25ft for each one foot fall". This may be so with the Billabong No 5, but we are very doubtful that output would be more than a dribble. Also, the article did not mention the purpose of having a **header tank**, which is simply to "even out" the flow of water into the drive pipe. It also collects any muck which happens to have got through the upstream filter.

In any case, we have ended up with an extraordinarily efficient and environmentally sound pumping system and we are now investigating the possibilities of using the raised water to power small machinery via, for example, a small turbine or air compressor. We would welcome anyone who is interested in this or any other back-to-earth matters to write or visit us and see for themselves what this miracle pump can do.

Write to Ned Corben, C/- A. Jurd, Mail Service 768, Rathdowney, Queensland, 4287.



For this reason we are doubtful about home-built hydraulic rams, but would like to hear from anyone who has tried making one, and with what success it operated. So we forget the experts and go by earthly experience. Here are a few samples of how we learnt from our ram:

First off, stick a bloody strong, fairly fine **filter** over the inlet of the pipe running from the upstream pool to the header tank. Floods washed our first filter away. It was no joke having to flush gravel, leaves, sticks and sand out of 600 feet of underground pipe!

When floods come, it is best to replace the filter with a tight-fitting cap which prevents water, or anything else, from entering the system. It is also wise to have a filter over the inlet to the drive pipe in the header tank. Both filters should not be so fine or so small that they impede the water flow.

Secondly, rigidity is absolutely essential in the drive pipe to produce maximum "water-hammer" effect. Thus it must be of galvanised iron or metal equivalent, and will be more rigid if buried.

Fearing that the vibrations of the water-hammer would tend to crack the cement rendering in our header tank (shown), we placed a short section of shock-absorbing plastic pipe in the drive pipe near its upper end. We can't say whether this did decrease the ram's output. However, its existence was questionable and later proved un-



BY JUDY WADHAM

"Before my life revolved around materialistic things, and now they don't matter any more. I have a new set of values

The Shire of Eltham (Vic) "Living and Learning Centre" is a Learning Centre with a difference. Its aim is "to provide a community access centre where people can come together individually and in groups in an atmosphere of equality, sharing their skills and experiences in order to improve the quality of their lives".

The Eltham Council has provided two houses, salaries for a co-ordinator and a secretary, and an annual budget for running costs. The 120-year-old stone cottage and out-buildings at 739 Main Road, Eltham, have seen some changes during the past year.

The cottage now contains meeting rooms, an office, duplicating room and a communal kitchen. The garage and hay shed have been converted into a large carpentry workshop and storage area. Chook pens and a stable have become pottery studios, and our garden now boasts an impressive array of vegetables and herbs. Much of this work has been done by volunteers of all ages and both sexes who have really laboured with love.

The Eltham Lower Park "Playhouse" has been renovated by volunteers, and is currently being used as a day care centre and will soon operate as a full-time creche.

Tutors and Co-ordinators are not paid, and fees are not charged, on the understanding that the idea of sharing and co-operating spreads and everyone enjoys the results.

Classes include those aimed at practical skills for living, such as carpentry, homestead cookery, dressmaking, wine and beer-making, haircutting, "Living with goats", yoga. Others involve hobbies such as learning how to make your own lathe and pottery wheel, stamp collecting, bush walking, crochet and macrame, folk guitar and marionette puppetry. Arts and crafts form a large group with batik, painting, pottery, weaving, wood carving, and a large group of spinners, some learning in a small group atmosphere using the wheels at the Centre, others meeting in private homes, where the emphasis is on sharing their knowledge and having a good time.

The "organic vegetable" group found the garden overgrown with spearmint and comfrey when they began in July, 1976. What a goldmine! As the land was cleared the herbs were potted and sold to raise money for library books, tools, seeds, etc. During the summer the vegetables were sold and all proceeds went back into the garden. What fun we had as the transformation into a beautiful vegetable garden occurred, thanks largely to the Co-ordinator, Johnny Dare, now retired, who believes that "one of the secrets of happiness in life is discovering an affinity with the soil".

The herb gardening group was one of the first to

New values

start last year. Such a setting for herbs! We enclosed an area near the kitchen with a low fence, laid a circular (if irregular) brick path through it, and installed a bird table on a tree stump. Now it is a picture, with dozens of varieties of herbs adding fragrance by the path which leads down to the cottage.

Recently a working bee removed some old wooden paving blocks from the stable and paved an area next to the herb garden, under the trellis supporting a grape vine as old as the cottage itself. We are gradually planting between the blocks with herbs that can be walked on; lots of chamomile, pennyroyal, Corsican mint and creeping thymes.

The fence at one side of the herb garden is covered with rose, peppermint and nutmeg scented pelargoniums, beautiful blue borage flowers and pink yarrow, making their presence felt amongst a variety of lavenders, lemon balm, thymes, and all other herbs, with "once-upon-a-time herbs" such as wallflowers and wild roses.

The herb group has had numerous excursions to local gardens, to Herb Nurseries in the Dandenongs, and to dear Mrs Carberry in Hawthorn who has been so wonderfully kind to us. As we sat in her herb garden, transformed from a croquet lawn and tennis court of another age, we sipped cool lemon drinks and ate home-made bread spread with creamed cheese and home produced honey and decorated with nasturtium leaves, borage and marigold flowers. Meanwhile Mrs Carberry sat in her wheel chair in the old summer house and gave forth much knowledge of the medicinal uses of herbs.

Now a "Native Plant" group has commenced. One fascinating talk was about "The medicinal uses of native plants and their uses in companion planting". Soon the group hopes to landscape our future car park, and a General Gardening group will commence with a view to maintaining the lovely old world atmosphere of the rest of the garden. All the gardening groups had a combined discussion day with Neil Douglas. His subject was "Looking at humans from the needs of vegetables, herbs and native plants", (with much advice on "How to get out of the rat race").

We have ideas for making a small scented garden (for the use of blind people as well as others), with hand high brick walls tumbling with scented flowers and herbs. The dreams and possibilities seem endless ...

This is not just a centre for "bored middle-aged mums" but a second home for people of all ages. Much of its atmosphere is due to our first Co-ordinator, Carina Hack, whose vision for a "Living and Learning" Centre has become a way of life for many, and they are now able to continue their active involvement with the help of our new Co-ordinator, Gail Pilgrim. What wonderful people!

So next time you're in Eltham call in and see us!

the charkha



By JOHN ANDREWS

Almost 30 years have now passed since the evening of January, 1948, when Mohandas Karamchand Gandhi was assassinated in Delhi by a Hindu extremist.

Gandhi died at a time when it must have seemed that his teachings had almost all been in vain. There was turmoil following the partition of British India into the Hindu dominated India of today and the predominantly Moslem East and West Pakistan.

While Gandhi had always preached

religious tolerance, there was bitter sectarian strife between the Hindu and Moslem communities. In 1946 he could point to no Indian village, not even Sevagram, where he lived from 1936 onwards, that had achieved self-sufficiency in food and clothing — one of the central aims of his programme to prepare the country for independence.

Yet Gandhi's ideals are far from forgotten today. In India, the Gandhian movement, though small, is still influential and he lives on as a **Mahatma**, a "Great Soul", especially in the minds of India's slum dwellers and peasants.

In other parts of the Third World —

Tanzania for example — non-western-style development is being pursued broadly on his philosophy, with emphasis on decentralisation, village self-sufficiency, human-scale low technology production and encouragement of traditional arts and crafts.

But perhaps the greatest resurgence of interest in Gandhian ideals has come in the western, "developed" world over the past decade, among those who are seeking alternatives to the materialism, violence, environmental destruction and alienation which characterises our modern urban-industrial societies.

Gandhi was born in 1869 in the Indian sea-coast town of Porbander in Gujarat. His father, a merchant, was the Prime Minister of Porbander and belonged to the Vashnava sect, who were strict vegetarians and abhorred the taking of life.

At school the young Gandhi had a poor record and at the age of 19 his family sent him to London to study law at the Inner Temple. Ironically, it was during his three years in London that he discovered the **Bhagavad Gita**, and an account of the life and teachings of Buddha. Reading these books had a profound influence on him.

In 1891 Gandhi qualified as a barrister and returned to India but moved on after only two years stay, this time to South Africa, where he took a job with an Indian business firm. Here he came face-to-face with racial discrimination when he was thrown out of a first class railway carriage reserved for whites only.

This and similar experiences drew him into taking up the cause of the oppressed Indian community in the country. He soon became the leader of a movement dedicated to attaining the same civil rights for Indians as those enjoyed by the white population. For 20 years in South Africa, Gandhi fought for this cause, and through a series of non-violent demonstrations and acts of defiance, considerable improvements in the status of Indians was won.

Curiously he did not extend his campaign to include a fight for the rights of black Africans, then 70 per cent of the total population, whose conditions were certainly as bad as those of Indians, who made up less than three per cent of the population.

It was during this period of civil rights agitation in South Africa that Gandhi formulated his basic ideals of **ahisma**, the non-violent way of life, and **satyagraha**, literally "truth-force", the non-violent method of political activism which works on an opponent from within, appealing to his conscience to recognise the basic rightness of a cause.

He also became convinced that a village-based society, in which each village was largely self-sufficient, and given considerable political autonomy, offered the best hope of achieving an equitable and non-violent social order.

This stimulated him to move from the city in 1904 and set up a small community near Johannesburg to practice the simple life close to nature. From this time on, Gandhi turned increasingly towards brahmacharya, a life of religious devotion involving rigorous personal discipline.

He returned to India in 1914, aged 45. For the next 30 years his central aim was the achievement of Indian independence from British colonial rule. He initiated a constructive programme with three main aims: the attainment of communal reconciliation within India, especially between Hindus and Moslems; the removal of untouchability, the caste tradition whereby most of India's poor were regarded as so lowly they should not even be touched by those belonging to higher castes; and the rehabilitation of life in India's 750,000 villages, in which 85 per cent of the population lived.

Gandhi was a man of action who remained uncorrupted, largely because he was not motivated by a desire for power or prestige. Except for a brief period as President of the Congress Party between 1924 and 1925, he steered away from such power whenever it was offered.

During his last few years, Gandhi devoted himself to preaching religious tolerance in the face of the bitter violence which broke out between the Hindu and Moslem communities as Jawahar Nehru was about to head the first all-Indian Government in Delhi, prior to full independence.

A frail old man in his late 70s, dressed only in a homespun loincloth, he travelled right across India, walking barefoot from village to village in Bihar, Bengal and Kashmir, preaching in Calcutta and Delhi, trying to break the violent cycle of Moslem killing Hindu and Hindu killing Moslem. "Never in my life has the path been so uncertain and so dim before me," he said at this time.

The great ideals of ahimsa and satyagraha which he sowed must not be allowed to wither before they have a chance to flower and reveal their full meaning.

As our technology becomes increasingly dangerous and alienating, Gandhi's symbol of the charkha, the spinning wheel, is being rediscovered throughout the world as an example of humanscale technology, a symbol of harmony, man with machine, man with himself.

KHADI

As Gandhi intended it, spinning was to be a supplementary occupation for India's peasants which they could carry out during the four months or more of the year when they were unable to work their land.

At the same time he intended it as a leisure occupation for the middle and upper classes through which they could show their solidarity with the poor and help India become self-sufficient in cloth into the bargain.

The aim was to make Khadi (homespun cloth) economically

competitive with mill cloth, so its price was kept as low as possible. As a consequence, the spinner's wage remained the lowest of all the forms of labour — a full-time spinner could not earn a subsistence wage.

In 1935 Gandhi sought to remedy this by instigating a radical change in the direction of the Khadi movement by shifting the emphasis from the consumer to the producer. Its twin aims were to provide a living wage for the full-time spinner and to encourage all villages to become self-sufficient in homespun cloth.

These quotations by Mahatma Gandhi have been selected from the journals YOUNG INDIA and HARIJAN (as noted).

What is claimed for spinning is that:

1. it supplies the readiest occupation to those who have leisure and are in wait of a few coppers.
2. it is known to the thousands.
3. it is easily learnt.
4. it requires practically no outlay of capital.
5. the wheel can be easily and cheaply made. Most of us do not yet know that spinning can be done even with a piece of tile and a splinter.
6. the people have no repugnance to it.
7. it affords immediate relief in times of famine and scarcity.
8. it alone can stop the drain of wealth which goes outside India in the purchase of foreign cloth.
9. it automatically distributes the millions thus saved among the deserving poor.
10. even the smallest success is the most potent instrument of securing co-operation among the people.

Young India, August 21, 1924.

This spinning wheel is growing on me. I seem daily to be coming nearer to the poorest of the poor and to that extent God. I regard the four hours to be the most profitable part of the day. The fruit of my labour is visible before me.

Young India, February 21, 1924.

The spinning wheel is the auspicious symbol of SHARIR YAJNA — body labour. He who eats his food without offering this sacrifice steals it.

Young India, January 8, 1925.

To those . . . who aspire to observe BRAMACHARYA, I do present the

spinning wheel . . . A person who wants to subdue his passions has need to be calm. All commotion within him ought to cease; and so quiet and gentle is the motion of the spinning wheel, that it has been known to still the passions of those who have turned it in the fullness of faith. I have been able to compose my anger by turning it . . .

Young India, May 27, 1926.

I refuse to be dazzled by the seeming triumph of machinery. I am uncompromisingly against all destructive machinery. But simple tools and instruments and such machinery as saves individual labour and lightens the burden of the millions of cottagers I should welcome . . .

I deny that KHADDAR is ugly. Want of the dead-sameness of a machine-made article is not a sign of ugliness, but, it is a sign of life, even as absence of sameness in the millions of leaves of a tree is no sign of its ugliness.

Young India, June 17, 1926.

Given the choice, it must be confessed with regret, that the unthinking multitude will prefer the apparently cheaper and easily obtainable calico to the apparently dearer and coarse looking and not easily obtainable KHADI.

Young India, July 4, 1929.

Through KHADI we were struggling to establish the supremacy of man in the place of the supremacy of power-driven machine over him. Through KHADI we were striving for equality of all men and women in the place of the gross inequality to be witnessed today. We were striving to attain subservience of capital under labour in place of the insolent triumph of capital over labour.

Harijan, December 21, 1947.

They Lived Today's Ideas Yesterday

BY JOAN COOK

They are anti-establishment, pacifists, vegetarians and have elected to wrest their living from the land through organic farming rather than compete in the frenetic pace of the urban rat race.

Hippies? No. For Scott Nearing is approaching his 90th birthday, and his wife, Helen, is 20 years his junior.

The Nearings saw their Utopian vision in the Depression year of 1932, when they first took to the New England hills. Now, 39 years later, they look back with considerable satisfaction on the gamble that worked.

"We have succeeded in our major goals," Scott Nearing said, narrowing his bright blue eyes reflectively. "We are in good health, we have kept up our professional interests — mine academic," Helen's musical — found a way to make a living and still have time for leisure and to associate with other people — friends, neighbours and visitors."

Shaming City Dwellers

In New York, en route to their hand-built, five room home in Harborside, Maine, following a lecture tour of India and Japan, the Nearings displayed an agility of mind and body that puts slack city dwellers to shame.

"We live on about four or five cleared acres of 100 acres of timberland," Mr Nearing said, and his wife added, "Our friends call it a 'free inn'. Hundreds of young people visit us in the

course of a year, about half of whom are really serious about wanting to live off the land."

"The first question they ask is, 'Do you know of any land available around here?'" Mr Nearing said, adding that space was scarce and more expensive than when they had started out.

"Or they say, 'What a nice garden, but I'm afraid it's too much work.'" his wife interjected.

Varieties of Work

Work has never frightened the Nearings, who counter-balance it with planned leisure, accounts of which have been chronicled by them in the recently reissued "Living the Good Life" (Schocken Books, \$4.95) and "The Maple Sugar Book" (Schocken Books, \$5.95).

They have cleared the land, farmed it organically, built their own stone buildings and the furnishings within and fashioned the farming tools with their own hands. What they couldn't grow, they bartered for. They accepted only a subsistence return, never a profit, for their cash crop of sugar maples.

"With a few more years of power failures, transit strikes, epidemics of heroin overdose, water shortage, unacceptable levels of air pollution, crashing aeroplanes, hundreds of thousands of New Yorkers will regard Scott and Helen as uncanny prophets," Paul Goodman, author of "Growing Up Absurd," wrote in his introduction to "Living the Good Life."

While land is more expen-

sive and harder to find today, money is easier to come by than it was in the early thirties, Mr Nearing pointed out.

"We know young people who have found land they could afford in places like West Virginia and the interior parts of Maine that are not along the shore or lakefront," Mr Nearing said. "And where one person couldn't afford to buy acreage of any size, three or four people get together and pool their money and they can and are."

As a result of their hospitality over the years, the Nearings have found it necessary to draw the line at overnight guests.

"Not everyone likes our fare," Mrs Nearing reported. "A lot of people who have camped out on our land and appeared at the breakfast table have been in for a real shock. No bacon, eggs, toast and coffee. Just apples and sunflower seeds and a black molasses drink. That sends some of them on their way with dispatch."

Neither of the couple drinks or smokes.

Mrs Nearing, whose black hair is flecked with grey, was a banker's daughter studying to be a concert violinist when she met and married Scott Nearing.

Learned Many Lessons

"I didn't know what end of a saw to pick up," she said. Since then she has wielded pickaxe and hammer and planted and ploughed alongside her husband.

"I've learned that certain

things, such as soybeans and limas won't grow, and that green peppers take babying," she acknowledged. "We plant more hearty vegetables like cabbages, kale and broccoli."

The Nearings adopted the rural life after a series of incidents that today's young rebels should take to their hearts. After teaching economics at the University of Pennsylvania for a decade, Mr Nearing was dismissed for his public fight against child labour.

Later, he was dismissed from the University of Toledo for his pacifist views on World War I. After the war, he was expelled from the Communist party for his stubbornly individual views — he still considers himself committed to Socialism — and by 1932 found himself in the midst of the Depression, unable to teach or get his writings published.

Instead, he married and took to the hills. Never having had children, the problems of educating a family never came up, a consideration he believes can be resolved but does make a difference.

In place of telephone and television, the Nearings read, play or listen to music and enjoy conversation with good friends and neighbours. Except for the month of November, they enjoy their lives, their changing landscape.

"In November, the hunters come and kill the deer, even though our land is posted," Mrs Nearing said with regret. "We usually go away. We don't like to stay and see our friends killed."

Reprinted from

The New York Times

WEDNESDAY, APRIL 28, 1971



Helen and Scott Nearing on a rare visit to New York

HOME AGAIN

By HELEN NEARING

After five months absence in foreign parts, we came back to our homestead farm in Maine to find snow still in the woods in late April and enough food in cellar and sun-heated greenhouse and garden to feed us till the new crops come in. The supermarkets won't see us until we run out of paper towels, toilet paper or matches.

In late October we left a garden that was green with rows of husky kale, frost-resistant multiplier onions,

parsnips, witloof chicory, spinach and parsley. In April, after freezing temperatures of 25 degrees (F) below zero, all of these were alive and thriving, under or just out of the snow, and will be part of our daily diet until the new young stuff comes in.

Just before leaving the farm in October, we had transplanted from the open garden two hundred small (two and a half inches high) lettuce plants (mostly Oakleaf and Simpson and Boston varieties) and two dozen parsley plants into greenhouse beds, which are on the earth, not elevated. These plants had no watering, ventilation or heating till we arrived home in April. We found 118 lettuces and a dozen parsley plants alive and robust. They were good-sized heads, rapidly maturing with the spring sun. They grew slowly through the winter weather in an unheated greenhouse.

In our cellar we had stored in apple-lugs of hard-maple leaves a dozen bushels of apples (all unsprayed and from our own or neighbouring farms); five bushels of potatoes (grown on top of seaweed and hay and fertilized only with compost); a bushel of carrots; a bushel of beets; three bushels of onions, and a quarter peck of garlic.

Most of these were perfectly firm and fresh, but every evening after our return we brought up from the cellar a bushel or two of one or other vegetables or apples. We picked out spotted or rotting specimens, took out what we wanted to eat, and put the rest back in leaves in the cellar. If we had stayed at home all winter, as we should have, they would have been gone over at least every month. We will be eating our last year's apples (firm and tasty) till we pick this year's crop. The same goes for beets, potatoes, carrots, garlic and onions.

Of bottled canned goods we have in the cellar 40 quarts of applesauce we put up last fall (autumn) from apples that would not have lasted the winter; 40 quarts of thick soup, made from the fall's excess tomatoes, celery, onions and parsley; 40 quarts of tomato juice; 65 quarts of raspberry juice; 100 quarts and 25 pints of rosehip juice, and about 50 jars of homemade blueberry jam.

As we don't eat meat or eggs or drink milk, we could live amply and healthily from what is in cellar, greenhouse and garden, combined with the staples in the pantry (dried beans and peas from the garden; our own dried herbs; sunflower seeds, wheat, oats, millet, buckwheat, honey, raisins, nuts, and olive and soybean oil) without going once to a supermarket, or spending a penny for food, for the next three to four months.

Here is an example of our daily diet in winter and spring, before the early greens appear in the garden.

Breakfast: Herb tea (mint, or rosehip or chamomile or comfrey) with honey. Sunflower or pumpkin seeds.

Lunch: Vegetable soup; boiled wheat grains, or baked millet or buckwheat; honey; peanut butter, blueberry jam, apples.

Supper: A raw salad of grated carrots, beets, turnip or rutabaga, with cabbage, apples and nuts, raisins, lemon and olive oil; baked potatoes; applesauce for desert.

However, with all this good food available, every spring we go on a ten day fast on water or juices, or a week's raw apple diet (about 20 a day, scraped). After eating poor, devitalized food for months in hotels, restaurants and planes, we usually come home ten or more pounds overweight and feeling loggy. This fast or mono-diet "apple-broom" gives our systems a rest, a cleansing and rejuvenation. Then how good our home-grown organic food tastes!

MESSAGE FROM URANTIA



A LETTER FROM FRED ROBINSON OF THE UNIVERSAL BROTHERHOOD

My Dear Irene and Keith,

My attention has been drawn to your article in The National Times (on Helen and Scott Nearing). I am inspired to write and convey to you my appreciation of the invaluable work you have done since your first issue of Earth Garden . . . you included in that first issue a very good report of my activities.

Mary and I had combined to put my concepts of The Alternative Lifestyle into practice on similar lines, in some respects, to the Nearings, and after 10 years of putting our concepts into practice we had received our 100 per cent conviction that we had the solution of "Practicalising the Spiritual and Spiritualising the Commercial" — in other words, we were no longer to be regarded as theoretical, idealistic but impractical Utopians. It was then I went East, looking for young New-Age Pioneers and the first two I gathered in, five years ago, were Stephen Carthew and his cousin, Rosemary, and your own good selves were inspired to print that very helpful interview.

Rosemary is our Chief Administrator and is highly efficient. Stephen is the Spiritual Director of the Brotherhood. Due to their whole-hearted dedication to this Pioneer Work, we have now reached the stage of objectively demonstrating this Universal Lifestyle to all qualified critical investigators.

This Universal Way of Life, which is guaranteed to produce Happy, Healthy Children, could not be

understood and applied by evolving humans on our planet in the past; altho' The Grecian Golden Age nearly succeeded.

Generally speaking the mass of evolving souls were incapable of understanding Cosmic Laws and applying them until this modern "generation gap" had been brought about. Extra-sensory perception is universally developing and more important, a spiritual-scientific understanding of what this breakthru' into Cosmic Consciousness implies and involves.

In short — "A Man-made Garden of Eden for God's wonderful Children of The New World Race, who (as in Austral-Aquaria) will all speak the one language of the One World Race — (for ALL Men ARE Brothers) as emphasised by Gandhi, and with The One Universal Religion; all based on such a simple statement as: 'The greatest amongst you shall be the Servant of All'."

This is based upon Cosmic Law. Any activity of Men who have developed Freedom of Choice, in place of animal Guidance by instinct — must develop a spirit of Loving, Altruistic Service in place of Selfishness. All selfish hu-man activity will now meet with inevitable World-wide failure, thus demonstrating for all future Time Why evolving souls Must learn to understand and apply The Cosmic Laws, Energy cycles and Time Bands which are intelligently applied to produce and maintain Order and Harmony throughout the far-flung Omniverse.

Man, must, of his own free-choice conform to those Universal Laws or suffer from man-made Chaos.

(For instance — in Nature there is no sickness nor disease. All such things are abnormalities due to Man flouting Natural and Divine Laws.)

This is why Religion-Science, Art and Philosophy must all be re-united in one whole concept of Life, its meaning and purpose — An "Earth Garden" — that Man-made Garden of Eden (that our children are rightfully entitled to) — is The Foundation upon which to build.

And, after five years of intensive training and intense Activity, our beautiful Family has passed "The point of no return". They gain their conviction, not only by "inner guidance", but by personal experience; both individual and Group Consciousness.

I feel, very strongly, that this is the next unfolding stage in The World Drama, that you should focus your attention upon — "TIME is now the essence of the contract."

Faternally, Your Brother Fred.

People wishing to learn more about The Universal Brotherhood should write to "Urantia", PO Balingup, WA, 6263.

Pirron Co-operative Ltd has 160 acres a few miles beyond Colac on the Stony Rises where three members plan to settle and which could support up to another eight families. There is plenty of building stone, water, manna gums and koalas, a herd of sheep and potential for self-sufficiency.

Further information from Lionel Pollard, 7 Duncan Avenue, Boronia, Vic, 3155.

We have for sale 198 acres freehold of beautiful hilly natural bushland on the Atherton Tablelands, North Queensland. It offers seclusion without isolation, being only one mile from Ravenshoe (good school, road etc). Town water, electricity and phone are available if wanted. The land is fully fenced, has a permanent spring, two creeks running most of the year, the timber is millable. Lots of earth-type folk living around too. We are asking \$16,000.

Sincerely, Joe and Marlene Sedlbauer, 44 Arnold Street, Stratford, Qld, 4872 (phone Cairns 55 1127).

We are buying 46 acres of pasture at Parkham, near Deloraine, Tasmania. It has very little bush (although there's plenty around) and we can cultivate and have grazing animals straight away. There are creeks, pleasant views, a small dam, good sun and reasonable access. We hope to grow our own grain and hay using horse(s) and to sell some vegetables.

We have a little boy, 3, and a baby girl and would be pleased to hear from other people with children who might be interested in joining us, one way or another. We believe in "de-schooling".

Regards and good wishes, Peter and Andreé Myers, PO Ranelagh, Tasmania, 7108.

For sale 99% acres freehold land, declared sanctuary, 3 bedroom house. Large sorting and packing shed, grader for fruit, Ferguson tractor, cultivator, plough, trailer and sprayer, various small sheds. Established plum and apple orchard, but about threequarter property still untouched bushland with prolific wildlife, native ferns and trees, bush orchids and stag-horns. Plenty of granite rocks for building if required. Price \$35,000. Close to Girraween National Park and only three miles from town.

Interested? Then please contact Alan May, PO Box 59, Wallangarra, Qld, 4383.

We have five acres of land for sale at \$8000. It is surrounded by State Forest and is heavily timbered, with a beautiful creek running through the long boundary. We are cutting it off our 80 acre property and want preferably vegetarian people with a family. Intending buyers would need some extra money to

develop and build a house. All people welcome to visit.

John and Rose Latto-O'Brien, PO Box 55, Cooroy, Qld, 4563 (phone 85 1276).

Bushfriends: This might suit an EG couple as well as a group. We are leaving our hide-away to go overseas. These are the details — 1600 acres of unspoiled, steep bushland, north-east of Walcha, NSW, on the upper Macleay River. There are 10 acres cleared on the ridge, where we've built a comfortable bush hut, equipped with stove, fridge, weaving loom, spinning wheel, two 1500 gallon water tanks. An Angora goat stud has been started for which we have fenced in a huge yard and built a shelter house. There is an established vegetable garden, an 11ft caravan in good order, building and fencing material and tools. We want \$18,000 for this unique place!

Please contact D. and V. Nikolai, "Yellow Box", Walcha, NSW, 2354.

Dear friends,

We want to communicate with EG'ers in the Snowy Mountains-Monaro area. Perhaps we can swap/share: ideas, inventions, tools, equipment, tree and plant seedlings, or just a loaf of bread. Please write or call soon. Ask in town to find us.

Suzanne and Denis McGhie, "Chatham", PO Nimmitabel, NSW 2552.

I am a single person (23), seeking a small piece of land to grow organic vegetables and set up a small orchard and generally realise my ambition of self-sufficiency. If anyone (or group) has a property with not too many fences, lots of good bush and not too close to the sounds of machinery, please contact me.

Gary Atkinson, 180 Shepparton Road, Victoria Park, WA, 6100.

We have for sale 180 acres on two titles at Bruny Island, Tasmania. Land has permanent water, 1/2-mile road frontage and is part cleared, balance bush. Close to beach and bays, consider selling blocks separately. Each block \$8,000.

Write: Paul & Heather Tolley, 4 Fowles Street, Zillmere, Qld, 4034.

more land lines

We are looking for 30-50 acres in the lower south-west of WA, preferably wholly or mostly uncleared with permanent water, good soil and a view. We will consider a property with ocean frontage, and don't mind if it is isolated. Perhaps a farmer would consider selling a small corner of his property?

B. Kauler, 61 Doust Street, Cannington, WA, 6107.

We want to live in a community of caring, supportive people who are committed to creating alternatives to the present society's alienation on both a physical and emotional level. In February we are moving to Armidale, NSW, to buy land able to support 20-30 adults plus children, with an area of bush.

We see the community as an evolving entity necessary to bring us close to each other as people, to make our daily activities more relevant to our lives and to allow us the joys of living and sharing with nature. We would like to meet others who'd like to share and shape this with us. Hope to hear from you.

Chris, Val and Peter. Write C/- Val Balde, C/- PO Emerald, Victoria, 3782 (phone (059) 68 4405).

We will be arriving in northern Tasmania in mid-December and we'd like some help. We'll need somewhere to stay for a few months until we find our feet. Our long term aim is to buy land or join a group with a view to non-commercial farming.

If you can help with either of these two plans, we'd appreciate hearing from you. We are a young family, and we have two dogs.

Mike & Cec Silverwood, 39 Sturt Road, Bedford Park, SA, 5042.

I have for sale 138 acres at Burringbar, six miles from the sea and 10 miles from Murwillumbah. The land is suitable for avocados and bananas, part-cleared and part with malleable timber. There is a sworn valuation of \$29,000. The land cost \$28,500 last October. There are many young people in the vicinity. I want to sell urgently and would take \$17,000. Glorious views to the ocean.

Write: John Muston, 28 Meron Street, Southport, Qld, 4215. (Phone: 075 31 3980).



ALYTEL HERBALL



Parte II

ORDERING THE HERB GARDEN

From The Countrie Housewives Garden, by William Lawson, 1617

Hearbs are of two sorts, and therefore it is meet (they requiring divers manners of Husbandry) that we have two Gardens: A Garden for Flowers, and a Kitchen Garden: or a Summer Garden, and a Winter Garden: not that we meane so perfect a distinction that the Garden for Flowres would or can be without hearbs good for the Kitchen, or the Kitchen Garden should want flowres, nor on the contrary: but for the most part they would be severed: first, because your Garden flowres shall suffer from disgrace, if among them you intermingle onions, Parsnips, etc.

Secondly, your Garden that is durable, must be of one forme: but that, which is for your Kitchen use, must yeeld daily roots, or other hearbs, and suffer deformity. Thirdly, the hearbs of both will not be both alike ready, at one time, either for gathering, or removing fruit therefrom.

Division of hearbs

Garden hearbs are innumerable, yet these are common and sufficient for our Countrie Housewives.

Of the Summer Garden

These hearbs and flowres are comely and durable for squares and knots, and all to be set at Michael-tide, or some what before, that they may be settled in, and taken with the ground, before Winter, though they may be set, especially sowne in Spring.

Roses of all sorts must be set. Some use to set slips and twine them, which sometimes, but seldome thrive all.

Rosemary, Lavender, Bee-flowers, Isop, Sage, Time, Cowslips, Pyony, Daisies, Clove Gilliflowers, Pinckes, Southernwood, Lillies, of all which hereafter.

Of the Kitchen Garden

Though your Garden for flowres doth in a sort peculiarly challenge to it selfe a perfit, and exquisite forme to the eyes, yet you may not altogether neglect this, where your hearbs for the pot doe grow. And therefore, some here make comely borders with the Hearbs aforesaid.

The rather because abundance of Roses and Lavender yeeld much profit, and comfort to the senses: Rose water and Lavender, the one cordiall (as also the Violets, Burrage and Buglos) the other reviving the spirits by the sence of smelling: both most durable for smell, both in flowres and water: you need not here raise your beds, as in the other Garden, because Summer towards, will not let too much wet annoy you — and these hearbs require more moisture.

Yet must you have beds divided, that you may go betwixt to weede, and some what forme would be expected: To which it avaieth that you place your hearbs of biggest growth, by walles, or in borders, as Fenell, etc, and the lowest in the midst, as Saffron, Strawberries, Onions, etc.

Hearbs of greatest growth

Fenell Angelica, Tansie Hollyhock, Lovage, Elly Campana (elecampane), French Mallowses, Lyllies, French Poppie, Endive, Succory, and Clarie.

Hearbs of middle growth

Burrage, Buglas, Parslie, Sweet Sicillye, Flower-deluce, Stocke Gillyflowers, Wall-flowres, Aniseeds, Coriander, Feather-few, Marigolds, Oculus Christi, Landibeefe, Alexanders, Cardus Benidictus.

Hearbs of smallest growth

Pansye, or Harts ease, Coast Margeram, Savery, Strawberries, Saffron, Lycoras, Daf-fadowndillies, Leekes, Chives, Chibals, Skerits, Onions, Batchelors buttons (double buttercup), Daisies, Pennyryall.



Comfrey with purple flowers (left) and white flowers, from Gerard, 1597.

Comfrey

COMFREY (*Symphytum officinale*). Common comfrey, Medicinal comfrey.

Old form: Conforye, confrey, consound, solidago, knitbone, boneset, bruisewort, gumplant.

PRICKLY COMFREY (*S. asperrimum*). German fodder comfrey.

RUSSIAN COMFREY (*S. peregrinum*). Russian's Prayer, Caucasian comfrey, Quaker comfrey. This is a cross between common comfrey and prickly comfrey.

Borage family — perennial.

Consolida Maior is an herbe men clepe dayessye or conforye. This herbe hast lewys lyk to horsehelne (elecampane) but it is not so qwyth (white) and it growth in watere placis and ther ben ij specis ther-of. The toon (one) hast a qwyth flour the tother a reed and thei han both on(e) vertu. The vertu of this herbe is this

that if a man be brokyn or bressed with-inne his body tak the rote of this herbe and roste it wel among hote colys and take it to the seke fastyng with hony and lete hym ete it. And he schal ben hol in warantye. Also this herbe helyth brokyn bonys. This herbe is hot and drye and it beryth blak seed.

AGNUS CASTUS, 14th century.

This is named Confrey, it hath leaves lyk to Horsehelne, but they be not so white. There be two spyces thereof. One with a whyt flouer the other with a red. His vertue is yf a man be bressed or broken within, take the rotes of this herbe and roste them in the Ashes and let the sicke eate thereof fastinge iii daies and he shal be hole. Also it helpeth to gather broken bones, it is colde and drye, and it bereth blacke seede. Also it stoppeth al maner of flures of bloude, and specyally for them that hath a veyne broken in the breast and vomiteth bloude, yf the ioyce thereof be drunke with redde wyne and a lytel masticke.

ANTHONY ASKHAM, A Lytel Herball, 1550.

Henry's herb

Comfrey hath rough hayzie stalkes, and long rough leaves, much like the leaves of common Buglosse, but much greater and blacker. The floures bee round and hollow like little bells, most commonly white, and sometimes reddish. The roote is black without, and white within, very clammie or slymie to touch.

— The roots of Comfrey pound and drunken are good for them that spit bloud, and healeth all inward wounds and burstings . . .

REMBERT DODOENS, *A nieuwe Herball* (trans Lyte), 1578.

1. The stalks of this Comfrey is cornered, thicke, and hollowe like that of Sowthistle, it groweth two cubits or a yarde high: the leaves that spring from the roote, and those that growe upon the stalks are long, broad, rough, and pricking withall, something hairie, and that being handled, make the hands itch, very like in colour and roughness to those of Borrage, but longer and sharpe pointed, as be the leaves of Elecampagne: from out the wings of the stalks appeere the flowers, orderly placed, hollowe within, of a light redde colour: after them groweth the seed which is blacke: the roote is long and thicke, blacke without, white within, having in it a clammie iuice, in which consisteth the vertue.

2. The great Comfrey hath rough hairie stalks, long rough leaves, much like the garden Buglosse, but greater and blacker: the flowers be round and hollowe like little bels, of a white colour: the root is blacke without, and white within, and very slimie.

Comfrey ioyleth in watrie ditches, in fat and fruitful medowes; they grow all in my garden.

THE VERTUES

The rootes of Comfrey stamped, and the iuice drunke with wine, helpeth those that spit bloude, and healeth all inward wounds and bruisinges.

The same bruised and laide to in manner of a plaister, doth heale all fresh and greene woundes, and are so glutinative, that it will sodder or glew together meate that is chopt in peeces seething in a pot, and make it in one lumpe.

The rootes boiled and drunke, doth clense the brest from flegme, and cureth the greefes of the lungs especially if they be confect with sugar in syrupe, it prevaileth much against ruptures or bursting.

The slimie substance of the roote made in a posset of ale, and given to drinke against the paine in the back, gotten by any violent motion, as wrestling, or overmuch use of women, doth in fower or five daies perfectly cure the same . . .

JOHN GERARD, *The Herball*, 1597.

Comfrey is mucilaginous, and is useful in all chest diseases, spitting of blood, and ulcerated lungs, soreness of the bowels, and all other inward inflammations. It makes a good lotion for ulcers and other sores, being very healing and cooling.

JOHN BROADBENT, *The Australian Botanic Guide*, 1887.

COMFREY COUGH REMEDY

Boil ½ to 1oz of crushed comfrey root in one quart of water, reducing to 1½ pints. Drink in wineglass doses.

BY JEAN HORNER

(Reprinted from the Henry Doubleday Research Association Newsletter No. 24, 1976)

The more I find out about comfrey, the more I realise what a valuable plant it is.

It is a hairy-leaved plant and the flowers are clusters of pale mauve bells. Allowed to grow unpicked, comfrey is a large, handsome plant, with tall branching stems, and large leaves.

It *can* grow from three to five feet high! The leaves are elliptical, pointed, tapering towards the base, and all growing from the crown unless the flower stems are allowed to grow, when smaller leaves grow alternately up the stalk.

Although it was known as a wild herbal remedy, it is only in recent years, mainly through the work of the Henry Doubleday Research Association in England, that the practical uses of comfrey in nutrition and medicine have been understood. Evidently, people used to grow it for those pale mauve flowers, if they had it in the garden at all.

In 1961, John Seymour in his book, *The Fat of the Land*, written about his farm in Suffolk, England, described Russian Comfrey like this:

This is the real Muck and Magic Crank's Delight! It sends its roots forty feet down, until they get to water. It gives you three or four heavy cuttings a year — in the tropics it has been known to give a hundred tons an acre! You can feed it fresh to stock (*any* stock will learn to eat it, and once they have learnt, will eat it in preference to anything else). You can make a sort of hay of it. We feed it mostly to ducks and geese, when we want to shut these birds up for any reason and there is not much else to give them. The love it and thrive on it.

Comfrey is grown from root or plant divisions (not seeds). Plant three feet apart always, preferably in loamy soil with a Ph of 6 to 7.

The large root system will spread in search of water and will tap and bring up minerals from the sub-soil. This ability makes comfrey a favourite with organic growers. Comfrey will not stand any competition from grass or weeds, though I find in one of my two comfrey beds that they are tolerating clover and mint growing in one corner.

It needs water (the original wild plant in Europe grew in ditches). It is a heavy nitrogen feeder, and can take it in a cruder form than many plants. A thick mulching of poultry manure, or straw bedding from the goat shed will make good growth. Rain or water can soak through the mulch. Without heavy feeding results will be disappointingly small and lacking in flavour.

Comfrey is the only plant known to extract the vitamin B12 from the soil. This vitamin is vital for the growth of animals and humans and is used to treat pernicious anaemia. Whilst most animals manufacture it

naturally within their bodies, man needs to obtain it directly. Therefore for vegetarians this is an important quality of comfrey.

First considered a flower garden plant, comfrey is usually now listed among the herbs. It can be used in cooking in many different ways. I pick the tender inner leaves, chop them up and add to salads, stews and soups. In the latter, they thicken the liquid.

In her book, *The Organic Gardener*, Catherine Osgood Foster suggests that comfrey should be cut two inches above the ground, about five times a season.

When the shoots are tender in the spring begin the first harvest for salads. Shred the leaves very fine before adding a mild French dressing. You can put the tender leaves in the blender, either by themselves or with vegetables for a rich juice drink. Or you may pour boiling water on the leaves and steep for 12 minutes to make a herbal tea. Dry some leaves to use to flavour your salads in the following winter.

Comfrey can be grown in large quantities in the field too, for use as a high yielding fodder crop, fields of 50 to 65 acres are being grown in the United States and Africa, but most farmers are content with about 5 or 6 acres. For such large quantities as this, a silage cutter cuts the whole plant near ground level about once a month. Depending on the climate, whether temperate or tropical, yields have been recorded between 60 to 100 tons an acre, even 124 tons in Kenya.

Horses, dairy and beef cattle, pigs, rabbits and poultry will all take it as fodder, fresh and dried. I give comfrey to my goats as a supplementary feed, and they love it! Only having a small plot, I just pull off the outer

leaves, the greener, heavier, hairy leaves — from all the plants in turn. When we are feeding we have to be careful the goats don't eat our fingers as well!

In Australia, comfrey plants come out of their dormant period about the beginning of October, grow rapidly and multiply too. That is when you can take cuttings to enlarge your plantings. It continues to grow until the winter, when it is dormant again. This means that where the winters are longer, as in England and North America, the yields are smaller than in the tropical countries. The record 124 tons to the acre was nearly on the Equator.

One of the other good uses for comfrey is to put it back in the garden to make other crops grow. Liquid manure — prepared with about 20 gallons of water to about 14lbs of leaves, left to soak for about a month — is especially good for tomatoes. Comfrey can also be laid in the bottom of trenches when planting potatoes, placed in the bottom of the hole when planting tomatoes, or used directly as a mulch.

Comfrey is rich in potash. When wilted overnight and dug in as a manure, it is also rich in nitrogen and phosphorus. The carbon-nitrogen ratio is almost, but not quite, as high as Indore compost.

Medicinally, the active ingredient in comfrey is a substance called *Allantoin*, which has been known to herbalists for centuries. Used either as a poultice or an ointment, it aids healing of cuts and burns, gives relief in many kinds of skin infections and insect bites, and also helps sufferers from arthritis. Research is going on to find its uses as an alternative to anti-histamines for hay-fever and asthma.



The HDRA Trial Ground at Bocking, Essex.

Well, how did Henry Doubleday and the Henry Doubleday Research Association come to be involved with comfrey?

Botanically, comfrey is a member of the family *Boraginaceae*, the family which includes borage, heliotrope and forget-me-not. It is the *one* member of the family that likes to have its feet wet, and grows wild along ditches in Europe and in Britain, apparently originating in southern Russia. The common name, comfrey, comes from an old Medieval French word, *Confiris*, which suggests it was known in Europe for a long time.

The first comfrey cultivated in Britain was Prickly Comfrey (*Symphytum asperum*), with very rough foliage and cobalt blue flowers, sent back to England from Russia by Joseph Busch of Hackney, who in 1790 was the Cockney head gardener at the Court of Catherine the Great. Joseph Busch had planted a border of it at the St Petersburg Palace.

Then in the 1840's came the potato famine in Ireland. Henry Doubleday, a Quaker small landholder, living at Coggeshall in Essex, England, had an idea of using this first comfrey as a crop to feed a hungry world.

In 1873 or thereabouts he wrote to the current head gardener at the Russian Imperial Palace (a Scot this time), to obtain some more plants. The gardener, not wanting to spoil the border planted by Joseph Busch (which was still growing well), dug up some seedlings from between the rows and sent them.

What Henry Doubleday thus obtained was not *Prickly Comfrey*, but a hybrid, a natural cross with the small, yellow-flowered *Symphytum officinale*, which grew wild in both Russia and Britain. This was later identified and drawn at Kew Botanic Gardens from plants that Henry sent them, as *Symphytum peregrinum*, with hybrid vigour. Just so long as it was propagated from root cuttings or divisions, all plants were exactly alike. Henry got from 100 to 200 tons an acre! Nowadays in Britain, they cannot get a yield higher than 67 tons to the acre, because they are not growing the same plant. Seed raising has meant the loss of the hybrid vigour.

In 1953 well-known English gardening writer, Lawrence D. Hills, wrote a book called *Russian Comfrey*, now out of print, which dealt with the pioneer work of Henry Doubleday. This book began modern comfrey growing in all countries. Out of the enormous fan mail that the author received from farmers and gardeners all around the world grew the idea for establishing the Henry Doubleday Research Association in Britain and L. D. Hills became its Secretary and Director.

Mr Hills saw that Henry Doubleday was a pioneer and a visionary, because he had passed on to others his knowledge about comfrey. This sharing of knowledge is a basic principle of the HDRA today. It is a registered charity in Britain, but it gives away knowledge, not money.

The Association has over 6000 members, worldwide, and carries on constant research not only into the uses of comfrey medicinally and for fodder, but also into many forms of pest control without dangerous poisons and chemicals. This research is carried out not only on the HDRA trial ground in Essex (just a few miles from Henry Doubleday's old home at Coggeshall), but on members' farms and gardens. Twenty-seven different strains of comfrey alone are at present grown there.



Henry Doubleday, 1851

The story of the Trial Ground is interesting. Like the Association it arose out of the enormous amount of mail from Lawrence Hill's book. In 1954 a grateful Canadian farmer received some comfrey plants from Mr Hills, the first modern variety known to Canada.

In return, the farmer sent to England a ton of lucerne seed! This gift contravened all sorts of regulations. It was too heavy. It was not "for personal use"; and so on. There was a lot of protest when Customs men would not allow it to enter the country. Canada's gift lay on the docks.

But while the battle for the seed was raging, an American dealer in wild animals sent an old friend in London a tame black bear. Now this gift broke all the rules too, but of course its publicity appeal put it past the Customs barrier. It was, as Mr Hills puts it, closely followed by a ton of lucerne seed!

With the money from the sale of the lucerne seed, Lawrence Hills bought the trial ground at Bocking, paid for the fencing, had comfrey plants (donated by growers all over Britain) planted; and published another pamphlet on comfrey. Today HDRA has as its aim the spreading of comfrey, and the scientific knowledge of organic farming to all farmers and gardeners who are prepared to listen and experiment.

LAWRENCE HILLS VISIT

Lawrence D. Hills is touring Australia in October and November and will give public lectures on comfrey and organic growing topics.

In Melbourne you will be able to hear him speak on "The Wonders of Comfrey" at 8 pm on Friday, October 29 at the Toorak-South Yarra Library, 338 Toorak Road, South Yarra.

In Sydney, there will be a series of nightly lectures, starting on Monday, November 15, through to Friday, November 19 at 8 pm at the Northern Districts Education Centre, Cnr The Promenade and Beecroft Road, Cheltenham, a short walk from Cheltenham Station. Comfrey is the subject on the Monday evening.

On Saturday, November 20, Mr Hills will give a public lecture at 2 pm at the NSW Teachers' Federation Hall, 300 Sussex Street, Sydney and on Sunday, November 21 at The Fragrant Garden, Elvyn Park Herbs, Portsmouth Road, Erina (off the Terrigal Road) near Gosford.

Tickets are \$1 for each lecture. They are available from Jan and Michael Bailes at The Fragrant Garden, Elvyn Park Herbs, Portsmouth Rd, Erina, 2051.

Mr Hills is also visiting New Zealand.

COMFREY, Past, Present and Future, Lawrence D. Hills, Faber and Faber Ltd, London, 1976, 253pp.

As you might expect, Lawrence D. Hills' new work is the definitive one on all aspects of comfrey. His earlier book, **Russian Comfrey**, published in 1953, is now out of print, though copies may be found in many libraries.

Lawrence Hills is responsible for the modern upsurge of interest in comfrey for gardeners, herb-growers, smallholders and farmers. He has been growing this wonderful plant for more than 25 years. Most of us know how valuable comfrey is as a human food, especially for vegans, as it contains vitamin B12, and comfrey flour is a valuable source of this, as is comfrey tea. But it is also useful for stock (curing scours in calves) and supplements most feeds. Then there is comfrey ointment for healing cuts and sores.

Growing comfrey is a link between the organic gardeners of the world, as Gael Knepper Douglas said in EG8 — "We often knew we were at the right place, because there was comfrey in the garden, and a compost bucket at the back door!"

Another benefit is that every tiny piece of comfrey root will become a new plant. Two plants which go dormant over winter may be divided to produce eight, ten or more plants the next spring. It may be cut after just a few weeks, or left to establish stronger leaf growth.

Mr Hills tells the story of the late 19th century boom in comfrey in which Henry Doubleday figured and also that of the mid 20th century interest which he helped to spark and maintain.

Comfrey, Past, Present and Future is available at \$9.80 including postage, and Lawrence D. Hills' leaflet, **Comfrey, The Herbal Healer**, is \$1.40 posted from June Fear, Hon Sec, HDRA, Greggs Road, Kurrajong, NSW, 2758.

Comfrey ointment is available from the same address at \$1.30 per jar posted.

Membership of The Henry Doubleday Research Association is \$3.00 annually for Australia only and \$7.50 for joint British-Australian membership. Send to Mrs Rose Taylor, Vincent's Road, Kurrajong, NSW, 2758.



COMFREY FRITTERS

Make up a batter using one egg, $\frac{3}{4}$ cup plain flour and one cup milk. Sift the flour into a basin and make a well in the centre. Add a pinch of salt.

Break the egg into the flour well, add some milk and beat with a fork, gradually adding the rest of the milk and bringing the dry flour into the centre. Beat well. Wash a dozen comfrey leaves and dip them in the batter before frying quickly in oil or butter until golden brown on each side. They really do look like little golden fishes and are delicious with cheese or meat.

five ~ in ~ one

By RON JONES, MELODY FARM, DURAL, NSW

Coleus Amboinicus or **Coleus Abroicus**, the Queen of Herbs, is also known as Spanish thyme, Spanish sage and Five-in-One.

This delightfully aromatic, succulent herb has as its origin the Spice Islands, now Indonesia. Specifically, it originally came from the Isle of Ambon, hence the "Amboinicus".

The early 16th and 17th century explorers from Spain and Portugal were the first to carry this plant back to Europe. From there it found its way to North America, where it is known as Five-in-One (five flavours in one herb). It was eventually grown in England, where it must have been kept in hot-houses. Being a succulent, it is not cold hardy.

An interesting story (probably apocryphal) concerns a dinner at Buckingham Palace given by Queen Victoria. The main dish was roast 'seasoned Turkey'. The seasoning was so different and delightful that it caused comment. A Duchess noted for her cooking asked the Queen for the recipe. The Queen summoned the chef (French, of course), who told the distinguished company that he had only used three fresh herbs in the seasoning — Turkey thyme (**Thymus Westmoreland**), garlic chives and **Coleus Amboinicus**, the Queen of Herbs. I expect this was a spontaneous title that the chef used on the spur of the moment to please the Queen!

Most English people know it by that title. It can be used with gratifying results in cooking tomatoes (in place of basil), in curries, savory mince, rissoles, soups and, of course, seasoning.

In the southern parts of Australia it can be kept growing during winter in warm, sheltered spots and with **very little water**. Once summer comes, it grows amazingly and cuttings can be established very easily in the garden with plenty of water. In warmer climates, it grows vigorously all-year-round. It can be found on many South Sea Islands and in Queensland.

Coelus Amboinicus plants are available from Ron and Joan Jones at Melody Farm Nursery, 616 Old Northern Road, Dural (Sydney).

THANKS AGAIN

We again wish to thank the Special Collections section of the State Library of New South Wales for permission to reproduce illustrations from books held in the Richardson Collection.

Lavender

LAVENDERS. Old form Lavander.

ENGLISH LAVENDER (*Lavandula vera*, *L. officinalis*). English, sweet, true, or Dutch lavender (formerly also *Lavendula angustifolia*).

Dwarf varieties of English lavender include *L. Munstead*, *L. Hidcote*, *L. Seal*, white-flowered (*L. alba*) and pink-flowered (*L. rosea*).

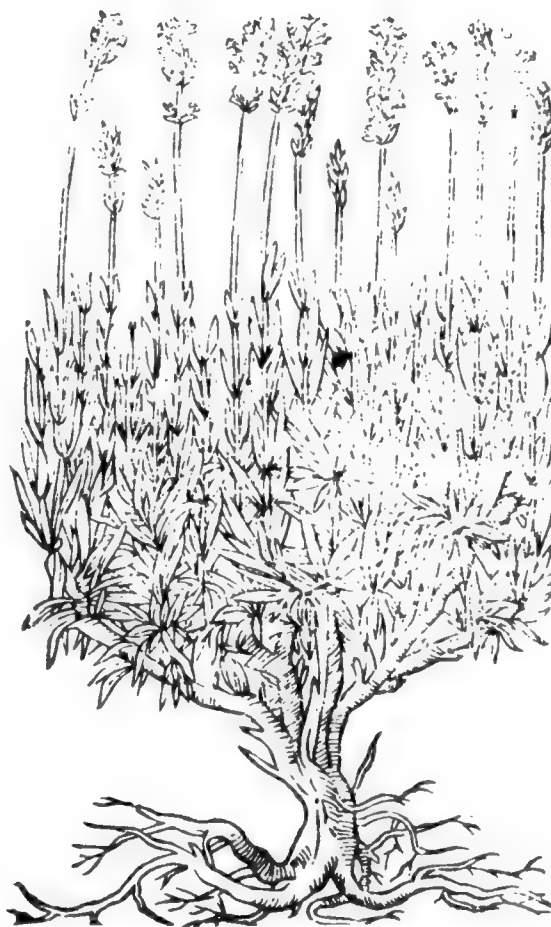
SPIKE LAVENDER (*L. spica*)

FRENCH LAVENDER (*L. dentata*), Grey-leaf (*L. candicans*), wide leaf (*L. latifolia*).

ITALIAN LAVENDER (*L. stoechas*, *L. spica*). Old forms include stickadove, spikenard, cassidonie, cassidony, cast-me-down.

Sometimes called Spanish lavender.

Mint family — perennial shrub.



Common Lavender spike (left) and white flowered lavender, from Gerard, 1597.

Here's fine Lavender for your cloaths!

Here's your sweet Lavender
Sixteen sprigs to a penny —
Which you will find my ladies
Will smell as sweet as any.

Buy my Lavender! Sweet blooming Lavender!

Lavender! Sweet blooming lavender,
Six bunches for a penny to-day!
Lavender! Sweet blooming lavender,
Ladies, buy it while you may.
LONDON STREET CRIES

Stoechas grows in the Islands of Galatia over against Messalia, called ye Stoechades, from whence also it had its name, is an herb with slender twiggs, having ye haire like Tyme, but yet longer leaved, & sharp in ye taste, & somewhat bitterish, but ye decoction of it as the Hyssop is good for ye griefs in ye thorax. It is mingled also profitably with Antidots.

DISCORIDES, circa 60AD (trans John Goodyer, 1655).

Lavandula is an herbe men clepe lavandre. This herbe is moche lyk to ysope but it is mo lengger lewys thanne ysope and it hast a flour sumdel blew and also the stalke growith other-wyse. The vertu of this herbe is ef it be sothyn in water and dronke that water it wele hele the palsy and many other ewyls.

AGNUS CASTUS, 14th century.

And first the Lavender hath the vertue of heating and drying, but profiteth not, unto the digestion of meate. And now if any applieth the Lavender often to the nose, in smelling thereto, it doth comforte and cleare the sight. And if any boyleth the Lavender in water, and that a shyrt wette in the same, and after dried againe (be worne) wyll suffer no Louse after to abyde in that shyrt, so long as the shyrt keapeth the smell.

The Spykenarde groweth lyke unto the Lavender saying y the leaves be thicker and bygger and beareth also a longer stalke and bygger flowers whiche be purple of coloure, lyke unto the Lavender, and hath besydes, greater vertues.

THOMAS HYLL, The proffitable Arte of Gardening, 1568.

Spike and Lavender be both of one nature, both hoate and drie in the second degree complete. That which we call Lavender is thought to be the female of this herbe, and Spike the male. The chief use is of the flowers, which being of fragrant savour, be dried and layde among linnen, or else they are distilled, and a verie sweet water is drawen from them. Which water being sunned for a time is not only sweet of smell, and therefore comfortable to the braine, but also is good for the palsy and all other infirmities of the braine proceeding of colde.

THOMAS COGHAN, Haven of Health, 1584

Smell often to it to comfort and cleare the sight. Boyle it in water and wett they shirt in it and dry it again and weare it ... Shred the herbe with the lowers and distil it and drinke two ounces of the water to helpe giddiness of the head and rub the head all over

with it, and let it dry in by itselfe ... Seethe lavender in water and temper thy wine therewith and also make a syrop with the said water and use it against swooning and to comfort the heart.

WILLIAM LANGHAM, The Garden of Health, 1597.

Lavender Spike hath many stiff branches of a woody substance, growing up in the manner of a shrub, set with many long hoarie leaves, by couples for the most part, of a strong smell, and yet pleasant enough to such as do love strong savors. The floures grow at the top of the branches, spike fashion, of a blew colour.

The distilled water of Lavender smelt unto, of the temples and forehead bathed therewith, is a refreshing to them that have the Catalepsie, a light migrain, and to them that have the falling sickness and that use to swoune much.

The floures of Lavender picked from the knaps, I meane the blew part and not the husk, mixed with Cinamon, Nutmegs, and Cloves, made into pouder, and given to drinke in the distilled water thereof, doth helpe the panting and passion of the heart, prevaieth against giddinesse, turning, or swimming of the braine, and members subject to the palsy.

French Lavender hath a body like Lavender, short, and of a woodie substance, but slenderer, beset with long narrow leaves, of a whitish colour, lesser than those of Lavender; it hath in the top bushie or spikie heads, well compact or thrust together; out of the which grow fourth small purple flowers, of a pleasant smell. The seede is small and blackish: the roote is harde and woodie.

JOHN GERARD, The Herball, 1597.

French lavender being a herbe of very good smell, and very usual in Languedoc and Provence, doth crave to be diligently tilled in a fat ground and lying open to the sunne ...

The drie, stonie and sunne shining place is very fit for lavender. It is of sweet smell, and very good when it is dried to put amongst linnens and woollen clothes, imparting of his sweetnes unto them, keeping of them from vermin.

It is very excellent to comfort weake and wearied sinewes, or otherwise ill affected through some cold cause: and by reason here of baths and fomentations made of lavender for palsies, convulsions, apoplexies, and other such like affects, are very soveraigne: the flowers with cinnamome, nutmeg, and cloves doe heale the beating of the hart: the distilled water of the flowers, taken in quantitie of two spoonfuls, restoreth the lost speech, healeth the swounings and disease of the hart: the conserve and distilled water thereof doe the like: the oile drieth up rheums ...

RICHARD SURFLET, The Countrie Farme, 1600.

This flower is good for Bees, most comfortable for smelling except Roses: and kept dry is as strong after a year as when it was gathered. The water is comfortable.

WILLIAM LAWSON, Country Housewife's Garden, 1618.



Staechas or Cassidony (Italian lavender) from Paradisus, 1629.

LAVENDULA. Lavender Spike

After all these faire and sweet flowers before specified, I must needes adde a few sweete herbes, both to accomplish this Garden, and to please your senses by placing them in your Nosegayes, or else where, as you list. And although I bring them to the end or last place, yet are they not of the least account.

1. LAVENDULA MAIER. Garden Lavender

Our ordinary Garden Lavender riseth up with a hard woody stemme above the ground, parted into many small branches, whereon are set whitish, long, and narrow leaves, by couples one against another, from among which riseth up naked square stalkes, with two leaves at a ioynt, and at the toppe divers small huskes standing round about them, formed in long and round heads or spikes, with purple gaping flowers springing out of each of them: the roote is woody, and spreadeth in the ground: The whole plant is of a strong sweete sent, but the heads of flowers much more, and more piercing the senses, which are much used to bee put among linnen and apparrell.

There is a kinde thereof that beareth white flowers, and somewhat broader leaves, but it is very rare, and sene but in a few places with us, because it is more tender, and will not so well endure our cold Winters.

2. LAVENDULA MINOR. GEN SPICA. Small Lavender or Spike

The Spike or small Lavender is very like unto the former, but groweth not so high, neither is the head or spike so great and long, but shorter and smaller, and of a more purplish colour in the flower: the leaves also are a little harder, whiter, and shorter then the former, the sent also is somewhat sharper and stronger. This is not so frequent as the first, and is nourished but in some places that are warmer, where they delight in rare herbs and plants

The Place

Lavender groweth in Spaine abundantly, in many places so wilde, and little regarded, that many have gone, and abiden there to distill the oyle thereof whereof great quantity now commeth over from thence unto us: and also in Lanquedocke, and Provence in France.

The Names

It is called of some *Nardus Italica*, and *Lavendula* . . . We doe call them generally Lavender, or Lavender Spike . . .

The Vertue

Lavender is little used in inward physicke, but outwardly, the oyle for cold and benumbed parts, and is almost wholly spent with us, for to perfume linnen, apparrell, gloves, leather, &c, and the dried flowers to comfort and dry up the moisture of a cold braine.

STAECHAS. Stickadore, Cassidony, or French Lavender

Cassidony that groweth in the Gardens of our Countrey, may peradventure somewhat differ in colour, as well as in strength, from that which groweth in hotter Countreies; but as it is with us, it is more tender a great deale then Lavender, and groweth rather like an herbe then a bush or shrub, not above a foote and a halfe high, or thereabouts, having many narrow long greene leaves like Lavender, but softer and smaller, set at severall distances together about the stalkes, which spread abroad into branches: at the tops whereof stand long and round, and sometimes foure square heads, of a dark greenish purple colour, compact of many scales set together, from among which come forth the flowers, of a blewish colour, after which follow seede vessels, which are somewhat whitish when they are ripe, containing blackish browne seede within them: the roote is somewhat woody, and will hardly abide the injuries of our cold Winters, except in some places onely, or before it have flowered: The whole plant is somewhat sweete, but nothing so much as Lavender.

Cassidony groweth in the Islands Staechades, which are over against Marselles, and in Arabia also: We keep it with greate care in our Garden.

It is of much more use in physicke than Lavender, and is much used for old paines in the head. It is also held to be good for to, open obstructions, to expell melancholy, to cleanse and strengthen the liver, and other inward parts, and to be a Pectorall also.

JOHN PARKINSON, Paradisus, 1629.

An honest ale-house where we shall find a cleanly room, lavender in the windows, and twenty ballads stuck about the wall.

Piscator, in Izzak Walton's *The Compleat Angler*, 1653.

Lavender's blue, diddle, diddle,
Lavender's green;
When I am king, diddle diddle,
You shall be queen.
ENGLISH NURSERY RHYME, 1805.

Who has not plucked up the sweet spikes of
Lavender and laid them with the linen in the wardrobe?
From this custom arises the saying, which used to be
common in Sussex in my boyhood, when any one wished
to pass a joke on another for his carefulness of a
thing —

“Do it up in Lavender!”

For a thing which was done up with Lavender would
be regarded as choice and precious.

REV HILDERIC FRIEND, *Flowers and Flower Lore*,
1884.

It is generally known that the Queen (Queen Victoria) is a great believer in Lavender as a disinfectant, and that she is not at all singular in her faith in this plant ... The royal residences are strongly impregnated with the refreshing odour of this old-fashioned flower, and there is no perfume that the Queen likes better than Lavender-water, which, together with the oil for disinfecting purposes, Her Majesty has direct from a lady who distils it herself.

DONALD McDONALD, *Fragrant Flowers*, 1895.

By the Greeks, the name Nardus is given to Lavender, from Naarda, a city of Syria near the Euphrates, and many persons call the plant “Nard”. St Mark mentions this as Spikenard, a thing of great value ... In Pliny's time, blossoms of the Nardus sold for a hundred Roman denarii ...

DR W. T. FERNIE, *Herbal Simples*, 1897.

A bed or hedge of Lavender is pleasing in the same way that the dress of a Quaker lady is pleasing; it is respectful, refined. It has a soft effect at the edge of a garden, like a blue-gray haze, and always reminds me of doves. The power of association of some inherent qualities of the plant, makes Lavender always suggest freshness and cleanliness.

ALICE MORSE EARLE, *Old Time Gardens*, 1901.

Lavender is one of the hardiest of herbaceous plants, and thrives under a wide range of conditions of both soil and climate — even poor, sandy or loamy soils are agreeable to it, and these conditions are recognised as resulting in the production of the finer classes of essential oil. One condition of soil is very necessary, and that is, it should be free from possibility of water-logging. Excessive moisture at the roots soon causes the plant to perish. Low, wet land should, therefore, be avoided, unless it is well drained.

JOSEPH KNIGHT, *Journal of Agriculture*, Victoria, 1912.

As culinary herbs the Lavenders have to be used in very small quantities, as the flavour is so strong. The flower-heads and leaves can be used to flavour soups, stews, etc. One flower-head or four leaves to half a pint of soup is enough. We also use a leaf or so, finely snipped up, or a few flowers in the tablespoon of chopped herbs we usually add to salads.

ELEANOR SINCLAIR ROHDE, *Culinary and Salad Herbs*, 1940.

Lavender is the chief “nose-herb”. We grow it today for its fragrance, to use in sweet-smelling sachets and pot-pourri and to perfume linen, just as it was used 400 and more years ago.

The essential oil scents, soaps, perfumes and powders, but lavender also has some medicinal and culinary uses which have been neglected.

With its fragrant blue-to-purple spikes and grey-green foliage, it is a shrub which brings beauty, aroma and colour to any garden. When we came to our house a huge bush of French lavender was waiting for us at the letterbox. Scores of bees clustered about the hazy blue sprays in the sunlight.

The thought of lavender usually evokes association with its pink-tinged mauve colour and with lavender water. It is “clean” “fresh”, “soft” and “fragrant”. The word in fact is derived from the Latin, “lavare”, to wash.

Various types of lavender grow wild in the western Mediterranean in dry, sandy soil among rocks, mainly in the south of France, Spain, Italy, Corsica and Sicily. It is also native to parts of Yugoslavia, the Adriatic Islands and Crete.

There are some 28 species of lavender, of which English lavender (*Lavandula vera*) is only one. It is one of those herbs of which the botanical titles have changed so many times that one species “may have borne as many names as royalty, or a much-divorced woman”, as Helen M. Fox remarked in *The Years in My Herb Garden* (1953). Mrs Fox herself preferred *L. officinalis* for English or True Lavender. In the past it has been tagged also as *L. spica* and *Levendula Augustifolia*.

The hybridisation of both wild and cultivated lavenders has resulted in many pretty plants, but much confusion for nurserymen, botanists and herb lovers.

English lavender (*L. vera*) has narrow, woolly, grey-green leaves, with one spike of soft mauve borne at the top of each erect stem. The spikes or lavender flowers are whorls of tiny blooms which resemble those of its relatives in the mint family. They bloom in summer.

Plants grow to about three feet in height, spreading out three feet. The roots are woody. *L. vera* yields the best quality oil for perfume.

Spike lavender (*L. spica*) is a coarser, broader-leaved species than the true lavender, with thicker, shorter flower spikes. It yields more oil than *L. vera*, but it is of an inferior quality. Many variations of the tall lavenders differ mainly in the size and shape of their leaves.

The dwarf English lavenders are hardy in cool climates. Hidcote, Hidcote Blue, or Hidcote Purple (*L. atropurpurea nana*), is a compact bush with deep blue flowers, named for the garden at Hidcote Manor in Gloucestershire planted by Lawrence Johnston, an American.

Munstead grows to a foot in height, with purplish-blue blooms and grey, hairy foliage. It was developed by Gertrude Jekyll at Munstead in Surrey. Seeds germinate more quickly than other types. Among other dwarf lavenders is *L. alba*, which has white flowers when propagated from cuttings, but does not always come true from seed.

The English lavender types were probably taken to Britain in the 16th century by Huguenot exiles from France, though there is a possibility that they arrived earlier as a result of the Roman conquest.

Essential oil for perfuming and making aromatic

waters became an important industry in the drier south of England, notably at Mitcham in Surrey (which is now built over), and later at Hitchin, Hertfordshire, and Maidenhead, Berkshire.

Yardley & Co Ltd of London is a famous company associated with lavender-scented products, particularly soap, powder and perfume, since early in the 19th century. Earlier, a member of the Yardley family had the rights to use lavender during the reign of Charles I, but details were lost in the Great Fire of London in 1666.

In 1913, Yardley adopted as its trade mark the painting by Francis Wheatley (1747-1801) from his series of "Cries of London", probably painted about 1791. There is also a Dresden china figure of the lavender flower seller.

In Australia, Yardley makes its products from concentrate of lavender shipped from London to its factory at Bankstown in Sydney.

French lavender (*L. dentata*) is hardy and well suited to Australian conditions, especially along the coastline. The spikes are a true lavender hue, radiating out in dense clusters atop fringed, narrow, toothed leaves. It blooms in winter and for most of the year, reaching a height of three feet or more.

Italian lavender (*L. stoechas*) is the Stickadove or Cassidony of the early herbalists. The Romans named the Stoechades Islands off the south coast of France after this variety because it grew so abundantly there. The islands, not far from Marseilles, are now called the Iles de Hyères.

This shrub grows to three feet, with clusters of small green lacy leaves. The flower spikes are distinctive, a deep purple, squared and tufted at the top. They look rather like the plumes of a guardsman's bearskin hat. *L. stoechas* blooms in spring.

In the 1st century, Dioscorides recommended lavender for troubles of the thorax. It was used in the 16th century as a remedy for hoarse and sore throats. Externally, lavender oil may be used as a rubbing lotion to ease aches and pains.

Lavender has always been favoured by royalty. It was beloved by three British queens.

Elizabeth I was fond of conserves of lavender and always kept them at her tables.

Queen Henrietta Maria, the "Cavalier Queen", had "very great and large borders of Rosemary, Rue and White Lavender and great varieties of excellent herbs", according to a Parliamentary survey of 1649, the year her husband Charles I was beheaded.

John Parkinson dedicated his *Paradisus* to Henrietta Maria (daughter of Marie de Medici and Henri IV of France) asking her to accept "this speaking Garden, that may informe you in all particulars of your store, as well as wants, when you cannot see any of them fresh upon the ground".

Both John Tradescant the Elder and the Younger were gardeners to Charles and Henrietta Maria at Oatlands in Surrey. The queen's cook, "W.M.", gave numerous recipes for the use of her "store" of lavender in *The Queen's Closet Opened*, published in 1655. To confirm her undoubted love of herbs and gardens, it is only necessary to record the fact that Henrietta Maria paid a visit to John Evelyn at Sayes Court when she was the Queen Mother.

The third English queen connected with lavender was Queen Victoria, who used lavender water as a deodorant and got it "direct from a lady who distils it herself". In the current era, Yardley & Co Ltd of London are suppliers of perfume and soap "by appointment" to "HM Queen Elizabeth, The Queen Mother" and of soap to "HM Queen Elizabeth II".

Charles VI of France (died 1420) is reported to have insisted that cushions stuffed with lavender be provided for his carriage. This may, or may not, have had something to do with the fact that the king suffered fits of madness and thought he was made of glass!

Louis XIV of France, the "Sun King", was probably more sane. He carried sprigs of fresh lavender in his pocket and washed with lavender water.

In Elizabethan times, lavender was sewn into dresses and gloves and "quilted in a cap" according to William Turner. Lavender drops were an ingredient in the "smelling salts" used to revive fashionably swooning women in the 19th century.

Lavender was used in bath water — and still is — particularly in Turkey and Egypt. In Spain it remains a stewing herb in churches and women there use the essential oil as a hair-dressing.

The oil is extracted by macerating the spikes and distilling them in water. A crude extraction method is to seal lavender flowers in a glass jar with a small amount of olive oil and place the jar in sunlight.



Lavender used as a striking wall hedge in the garden designed by John Hemphill at Somerset Cottage, Dural, near Sydney.

Because lavender culture is suited to the drier climate of many parts of Australia, high hopes were held at one stage that it would become a centre for the commercial production of essential oil.

A Government Scented Plant Farm was set up at Dunolly in Victoria to grow Spike lavender and *L. vera*. The Melbourne Leader reported in 1892:

This farm should be the subject of interest to every member of the community, and it is to be hoped will eventually become an object lesson which will bring home to the minds of a large section of the population the opportunities which await them of making profit out of what is now grown merely for ornamental purposes . . .

As lavender enters largely into the composition of a good number of perfumes it will be extensively cultivated; the oil at present is worth about 10s per pound.

In 1912, the Victorian Government was still encouraging farmers to take on lavender cultivation as a small rural industry. Cuttings were available from the Labour Colony at Leongatha at 3s 9d per 1000.

"The Governor of Pentridge, Mr Cody, planted out a small area, about half-an-acre or so, and returns given from this were highly satisfactory," wrote Joseph Knight in the *Journal of Agriculture, Victoria*, for May, 1912. "Suffice it to say that, on his retirement from the Government service, he is entering into lavender cultivation on a much larger scale."

A commercial plantation of about 200 acres of lavender grown for oil exists at the Bridestowe Estate in Tasmania.

CULTIVATION

Lavender should be grown in a sunny, well-drained place. Feed with lime or dolomite to provide the alkaline conditions it needs. The seeds germinate slowly, so lavender is best propagated by cuttings five or six inches long, taken in autumn or spring. Remove leaves from the bottom three inches and poke the cuttings into moist sand or sandy soil.

Prune lavender bushes each year after the spikes have been gathered in autumn. This gives them time to grow before winter. Cut back old wood and generally thin out the plants to allow air and light to penetrate. Always gather lavender spikes for drying early in the morning, when they are dry. Dry in shade.

It is an antiseptic. The oil was used for swabbing wounds during the First World War.

An insect repellent is made by absorbing a few drops of lavender on cotton wool and hanging it from the ceiling. One drop is said to be sufficient to kill any insect. The oil rubbed on the skin will repel flies, mosquitoes and ticks. A few sprigs of dry lavender will quickly deodorise a room if they are burnt on a fire.

Strew lavender leaves with stored fruit to deter pests.

Lavender tea is aromatic, strong and green, good against headache and faintness, relieving tension. Pour a pint of boiling water over an ounce of fresh tops (leaves and spikes, or leaves alone). Add lavender to other herbal teas.

Lavender water can be made at home by mixing 1oz of oil of lavender, 1½ pints spirits of wine and a drop of musk in a quart bottle. Shake every few days. After a fortnight strain and store in perfume bottles. Use as a face wash and deodorant.

Lavender vinegar for toilet use is dabbed on cotton wool to rub over aching skin or across the forehead to relieve a headache. Steep lavender sprays in white vinegar, leave in sunshine and shake the container each day. Change flowers and repeat after a further week. Strain through muslin or blotting paper and bottle.

Like many other herbs lavender is a poison in a

massive dose. It was eaten chiefly as a conserve, or added to jellies to vary the taste.

Lavender sugar is made by bruising a few spikes to release their oil, then sealing them in a glass jar with sugar. This may be used for icing (remove the spikes) or in making ice-cream.

A few leaves will add flavour to salads.

Lavender bath mix: Add a bunch of lavender and a bunch of rosemary to a handful of Epsom salts for a refreshing bath. They may be placed in a muslin bag under the running tap or immersed in the bath water. A few drops of lavender oil has the same effect in a bath or footbath.

Lavender hair rinse: Infuse a handful of stalks and blossoms of lavender by boiling in a pint of cold water. Simmer for three minutes with top covered. When cool, use as a hair-conditioner.

SACHETS & SWEET BAGS

Lavender sachets are made from dried flowers, crushed and sewn up in muslin. Cut off long stems when the flowers spikes are out fully. Hang them upside down in loose bunches in a dry, shady place.

They are dry in two weeks. The sachet is used to perfume linen, keep stored clothing fresh and to repel moths.

Another mix: Add to about ½lb dried lavender spikes, 1/3oz dried thyme and mint, ¼oz ground cloves and 1oz cooking salt. Sew up in a small silk bag. A cheering present for someone ill, to place under their pillow.



CONSERVE OF THE FLOWERS OF LAVENDER

Take the flowers being new so many as you please, and beat them with three times their weight of White Sugar, after the same manner as Rosemary flowers; they will keep one year.

W.M., Cook to Queen Henrietta Maria, *The Queen's Closet Opened*, 1655.

FOR A BATH

Take Sage, Lavender flowers, Rose flowers of each two handfuls, a little salt, boil them in water or lye, and make a bath not too hot in which bathe the Body in a morning, or two hours before Meat.

JOHN MIDDLETON, *Five Hundred Receipts*, 1734.

LAVENDER SACHET

Ground lavender flowers, 1lb; gum benzoin in powder, ¼lb; attar of lavender (essential oil), ¼oz.

G. W. S. PIESSE, *The Art of Perfumery*, 1880.

Wormwood



Wormwood, from Gerard, 1597

WORMWOOD (*Artemisia absinthium*). Perennial.
Common wormwood, absinth. Old form: Wermode, wormewoode.
ROMAN WORMWOOD (*A. pontica*). Old form: Pontick wormwood.
Composite.

For the lips of a loose woman drip honey,
and her speech is smoother than oil;
but in the end she is bitter as wormwood,
sharp as a two-edged sword.
PROVERBS, 5.3-4.

What can equal this for fever and gout, for headache
use an infusion of it and plaster your head with a crown of
the wet leaves.
WALAFRID STRABO, *The Little Garden*, 875 AD

Verily of these three Worts which we named Ar-
temesia, it is said that Diana should find them, and
delivered their powers and leechdom to Chiron the
Centaur, who first from these Worts set forth a leechdom,
and he named these Worts from the name of Diana, Ar-
temis, that is Artemesias.
HERBARIUM APULEIUS (trans Cockayne), 10th C

This herbe comfortith and strengthith the stomak in
what-so-every wyse a man take it. But betere is it there-
to, if thou sette it in rayn-water and lay it a-colde there-
oute and oft drinke it in this wise.

The smel of wermode wole make the sike to slepe
and so it wol, if it be leide under his hede him unwittyng.

— For to make fair her (hair).

The asshen of wermode blekkyth her, if it be
medelid with oile and wex and if thou will anonite thi her
with this oynement. Ley wermode in thy cheste, and
there shall no motth come there-in.

MACER'S HERBAL, 12th C.

This herbe is called wormewood. The vertue of this
herbe is good to comforte the herte, and clenseth the
stomake ... If this herbe be drunke with Spyknarde, it
swageth the stomake and wombe that are infected of
wycked windes. Also if this herbe be tempered with
hony, it will ease the swellyng in a mannes mouthe.

ANTHONY ASKHAM, *A Lytel Herball*, 1550.

Pontick wormwode ... hath much less floures and
leaves than other wormwodes, and the smell of thys is not
only not unpleasant, but resembleth a certyne spicines or
pleasant savor, all other have a verye fould smell.

— Wormwood hath astringent or binding together,
bitter and biting qualities, heatinge and scouringe awaye,
strengthening and drying.

WILLIAM TURNER, *A new Herball*, 1551

While Wormwood hath seed, get a handful of twaine,
To save against March, to make flea to refrain:
When chamber is sweep'd, and Wormwood is strown,
No flea, for his life, dare abide to be known.
What savour is better, if Physic be true,
For places infected than Wormwood or Rue?
It is as a comfort for heart and the brain,
And therefore to have it, it is not in vain.

THOMAS TUSSEY, *Five Hundred Points of Good
Husbandry*, 1573

And while it is young, it is eaten in salades with other
herbes to the great comoditie of the stomack and liver for
it strengtheneth a weake stomacke & openeth the liver &
spleene.

For which purpose there is to be had in the stilliarde
at London a kinde of wine named wormewood wine which I
would wish to be much used of all such students as be
weake of stomack. They may easily have a rundlet of three
or foure galons or lesse, which they may draw within their
owne chambers as neede requireth. I was wont when
appetite failed, to steepe a branch or two of common
wormwood in halfe a pynte of good white wine, close
covered in somme potte all night, and in the morning to
streine it through a cleane linnen, and to put in a little
suger and warme it, and so drinke it. Or sometime to burne
the like quantitie of wine with sugar and a branch or two of
wormewoode put into it. Wherein I have founde many
times marveilous commoditie, and shall be sure of a good
stomacke to meate, and be free from wormes.

THOMAS COGHAN, *Haven of Health*, 1584.

It is very profitable to a weak stomacke that is troubled with choler, for it clenseth it thorough his bitternes, purgeth by siege and urine: by reason of the binding qualities, it strengtheneth and comforteth the stomacke, but helpeth noting at all to remoove flegme contained in the stomacke as Galen addeth.
JOHN GERARD, The Herball, 1597

Two sorts of wormwood are wel known to many, that is our common wormwood and that which is called *Ponticum*, now sown in many gardens, and commonly called french wormwood. And while it is young, it is eaten in salades with other herbes to the great commodite of the stomack and liver, for it strengtheneth a weake stomacke and openeth the liver and splene.

NICHOLAS CULPEPER, The English Physician, 1652.

'Tis good in long putrid Fevers, it carries off the vitious Humours by Urine, it expels Worms from the Bowels, and preserves Clothes from Moths. The Juice, the distill'd Water, the Syrup, the fixed Salt, and the Oyl of it are used; but the Wine or Beer seems to be the best.
JOHN PECHEY, The Compleat Herbal, 1694

The leaves have been commonly used, but the flowery tops are the right part. These, made into a light infusion, strengthen digestion, correct acidities, and supply the place of gall, where, as in many constitutions, that is deficient. One ounce of the Flowers and Buds should be put into an earthen vessel, and a pint and a half of boiling water poured on them, and thus to stand all night. In the morning the clear liquor with two spoonfuls of wine should be taken at three draughts, an hour and a half distance from one another. Whoever will do this regularly for a week, will have no sickness after meals, will feel none of that fulness so frequent from indigestion, and wind will be no more troublesome; if afterwards, he will take but a fourth part of this each day, the benefit will be lasting.

SIR JOHN HILL, The British Herbalist, 1772.

A. asbsinthium is the common Wormwood found wild in many parts; both the flowers and leaves of this variety possess a peculiar aromatic scent, somewhat resembling peppermint.

DONALD MCDONALD, Fragrant Flowers and Leaves, 1905.

Common wormwood is a bitter herb, but an aromatic, pretty silver-grey bush which makes a highlight in the herb garden.

It was used in absinthe, the French liqueur, and also in vermouth. It still adds strength and flavour to home-brewed beer.

Its strong odour repels moths and fleas where it is strewn. Brush over clothing in cupboards and wardrobes two or three times a year with a whisk made of wormwood tops. Spread in stored grains and fruit to keep away weevils, or spray with a weak tea solution, which will also repel slugs, plant lice and cabbage butterfly in the garden. It is a companion plant for radish.

Medicinally, wormwood should be used with caution. A strong tea may cause hallucinations and it is a poison in concentrated form. Habitual drinking of absinthe in earlier days caused death through paralysis and a law was passed in France in 1915 prohibiting its manufacture. It is antiseptic.

There are few culinary uses, though leafy tops have been placed on roast goose in the oven to cut the grease.

Wormwood is an erect sub-shrub, growing to three feet in height, with woolly, grey-silver leaves. Seeds are slow to germinate, so it is best to start from cuttings or divisions. Roman wormwood (*A. pontica*), grows to two feet and has a soft silvery foliage and a more delicate aroma.

Yarrow

YARROW (*Achillea millefolium*). Perennial.

Common yarrow, Milfoil. Old form: Yarowe, milfoile, nosebleed, Soldier's woundwort, yarroway, Knight's milfoil, Carpenter's weed.

PEARL (*A. ptarmica*).

CLOTH OF GOLD (*A. filipendulina*).

RED-FLOWERING (*A. mil. rosea*).

Composite.

Yarroway, yarroway, bear a white blow
If my love love me, my nose will bleed now.
EAST ANGLIA SAYING.

Kynge Achyllis founde this herbe, and with it he heled his men that were wounded with yron. For Woundes stampe this herbe with Swynes grece, and playster it to the wounde and it shall hele it. And the same is good for an ache in the back or in the side.

Take the ioyce of this herbe and vynegre and drynke it, and mervelyously it helpeth a wounde that hath taken colde. Stampe this herbe in butter and laye it to the wounde and it wyll hele it well.

Also for the heedache stampe this herbe and playster it to the heed. Also for bytynge of a wode Dogge, stampe this herbe with the Graynes of wheat, and it heleth it.

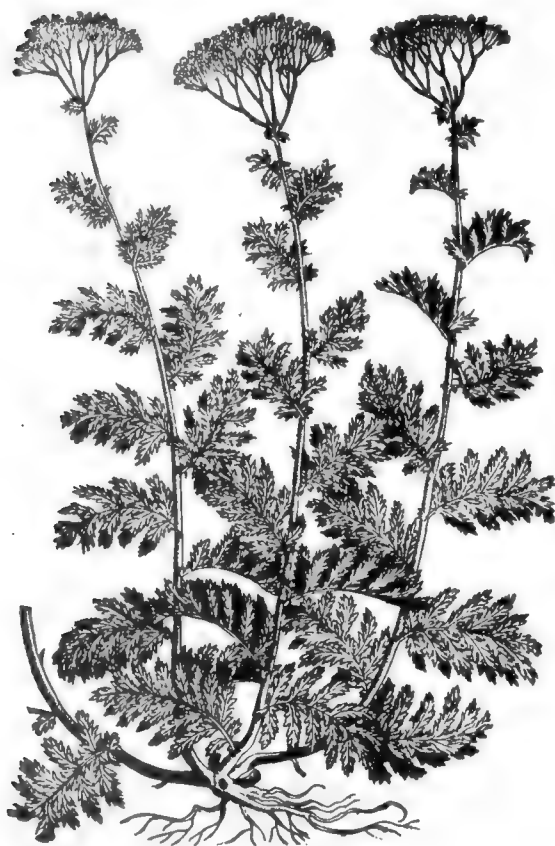
BANCKES' HERBAL. 1525.

Achilles Yarrow or noble Milfoile, hath, a thicke rough roote, with strings fastened thereto; from which immediately rise up divers stalkes, very greene and crested, whereupon do growe long leaves composed of many small jagges, cut even to the middle rib: the flowers stand at the top of the stalkes in spokie umbles or tufts, of a yellowish colour, and pleasant smell.

It is a principall herbe for all kinde of bleedings, and to heale up new and old ulcers and greene wounds.

The plant *Achilles* is thought to be the very same, wherewith *Achilles* cured the wounds of his soldiers.

JOHN GERARD, *The Herball*, 1597.



Yarrow, from Mattioli, 1583

A common plant in pastures, hedgerows, and wastes, with a peculiarly scented leaf, and flowers generally of a white or pinkish tinge of colour. In some parts of the country it used to be largely employed in bridal wreaths.

DONALD MCDONALD, *Fragrant Flowers and Leaves*, 1905.

Milfoil is always the greatest boon, wherever it grows wild in the country — at the edges of the field or roads, where cereals or potatoes or any other crops are growing. It should on no account be weeded out. Like sympathetic people in human society, who have a favourable influence by their mere presence and not by anything they say, so milfoil, in a district where it is plentiful, works beneficially by its mere presence.

DR RUDOLF STEINER (1861-1925).

Yarrow is one of the aboriginal English plants, and from time immemorial it has been used in incantations and by witches. Country folk still regard it as one of our most valuable herbs, especially for rheumatism.

ELEANOUR SINCLAIR ROHDE, *The Old English Herbals*, 1922.

Yarrow or milfoil is a weedy herb once used commonly fresh and in ointments to heal wounds. Soldiers took it to the Crusades and carpenters used it to cure chisel cuts in their hands.

The earliest account of its use as a wound-wort stretches back to Greek mythology. Golden-haired Achilles cured his comrade Telephus of a spear wound during the Trojan Wars. Warned by Apollo that the wound could only be cured by its cause, Achilles dressed it with rust from an iron spear and the herb *Achilleos*, which we take to be yarrow.

Achilles was one of the many pupils of the wise Centaur, Chiron, who reared him at Mount Pelion, instructing him in riding, hunting, pipe-playing and healing and no doubt in the traditional maxim that "like cures like".

Put into the nostrils, yarrow was supposed to stop bleeding; also to cause bleeding as in the verse about "yarroway", its name in the eastern English counties.

Added to beer in place of hops, it made the beer more intoxicating. Yarrow was also a tobacco substitute and used as snuff. A few young leaves or flowering tops may be cut up and added to salads.

Yarrow tea is made by pouring a pint of boiling water over a teaspoon of dried leaves and flowers (which dry well). It promotes perspiration and opens the skin pores and is recommended against fevers, cold, flu, hay fever and malaria.

Externally, the tea is used in hot fomentations for sores or wounds. A stronger infusion, cooled, is said to stop hair falling out after the scalp has been bathed with it.

Yarrow is a hardy perennial, growing to about a foot high. It does best in sunlight. The green leaves are feathery and finely serrated (milfoil-thousand-leaved). Flowers are pinkish-white in flat clusters, though there are red and yellow forms.

Propagate yarrow at first by root cuttings. After that it will spread rapidly by self-seeding and root growth. It does well as a ground cover or garden border.

Yarrow is a dynamic herb, used in Bio-dynamic preparations. It gives vigour to nearby plants and also to crops and pastures. It repels ants, flies and other insects. A few sprigs should be added to the compost occasionally.

MORE HERB SUPPLIERS

Burn Brae Herb Farm, PO Box 61, Ballandean, Qld. 4382. Send SAE for list, or visit Terry and Wendy Abbott at Ballandean, 2 miles off the New England Highway, 12 miles south of Stanthorpe.

Cathy Akroyd is selling herbs in Canberra under the name, *The Herb Garden* on Sundays at Jamison and Kambah markets and later in the year at Pialligo. Phone Canberra 54 3672 for inquiries on herbal treatment.

Woodstock Herbs, Golden Gully Road, Jamberoo, NSW, 2533. Margaret Atkinson has a good range of herbs for sale to people in the area. Phone 36 0249.

weeds and herbs

By DAWN WHITE

Many of our weeds (imported) make tasty additions to the menu, and lots of them are actually valuable herbs — if you can recognise them. We have a big patch of fumitory (*Fumaria officinalis*) every winter, but never knew what these pretty little things with flowers like branches covered in little pink parrots were, until I saw it in *The Observer's Book of Wild Flowers* (British), a marvellous little book.

But if I didn't know, the chooks sure did, and so did the two poor horses which stroll in now and then. Poor old Dandy had an itchy back and he'd lay down and have a good roll all over the fumitory, which is so well known as a remedy for skin trouble.



Fumitory.

Fat Hen (*Chenopodium album*), apart from being a rather decorative shrub, also makes a tasty spinach and flour can be made from its seeds.

A few words in praise of **garlic** (not exactly a weed): This odorous vegetable, so popular of late for repelling pests and killing mosquito larvae, has also been found to inhibit growths and will rapidly heal blisters, ulcers and bed sores. Fresh garlic oil applied frequently will also help to cure Herpes simplex, the nasty old cold sore or blister.

Onions are also curative, being noted for their poison-absorbing quality. Sliced onions hung up will absorb germs in the air, but a tainted onion must never be eaten. Garlic, onions and **ginseng** emit a type of ultra-violet radiation called

"nitrogenic" radiation, which stimulates cell activity and rejuvenates the system. But over-eating of onions may cause anaemia.

There are quite a few books about on weeds and herbal medicine full of fascinating information. **About Herbs**, by Dr Benedict Lust (Thorsons Publishers Ltd), **Russian Folk Medicine**, by Paul Kourenhoff and George St George (Pan Books), **Culpepers' Complete Herbal** (Foulsham), and **The Weed Cookbook**, by Adrienne Crowhurst (Lancer Books, New York), cover weeds and cultivated plants, as well as mouth-watering recipes.

Try this one for **Persimmon Pudding**, which really makes one drooly in the saliva glands:

Blend together 2 cups persimmon pulp, 2 beaten eggs, $\frac{3}{4}$ cup sugar (try raw sugar), 1 teaspoon baking soda (yeech!), 1 teaspoon cinammon, $\frac{1}{4}$ teaspoon ground cloves. Mix 2 cups flour with a little of 2 cups milk until it forms a smooth paste, blend it into the persimmon mixture. Add the milk gradually, beating all the while, then pour into a buttered pan and bake for 45 mins in a preheated 350 degree F oven. When it's deep brown, serve hot or chilled with whipped cream.

Also dealt with are seaweeds, fungi, condiments, pickles, drinks, chocolate substitutes (Linden fruits), dried fruits and rennet substitutes. Sugars and nut butters are mentioned in **Edible Wild Plants of Eastern North America**, by Merritt Lyndon Fernald and Alfred Charles Kinsey (Harper & Row, NY). How about this recipe for **Strawberry Leather**:

Take thoroughly ripe strawberries, mash to a pulp, spread on platters, and dry in the sun or oven. When dry, dust with powdered sugar and roll up like a jelly cake (Swiss or Jam Roll to us) into suitable sized pieces and pack away in jars. The sugar may be left out if desired.

Did you know that the **Ginko tree** (Maiden-hair tree) has edible fruits (you need a male and a female tree)? The yellow fruits hang in clusters on short stems and look like a cross between apricots and cherries. Both meat and kernels are edible.



Dandelion.

By DOROTHY COCHRANE

Some notes on weeds and herbs which I hope will be of benefit to others, as they have been to us over the years:

Dandelion: The fresh leaves are used to complement salads, or to top up vegetables in the winter. I use a rotary parsley cutter to do this, using a lot of greens where you just need a little to flavour as you are dishing up. It's delicious put into scrambled eggs this way.

Elderberry: The flowers make a nice tea, with lemon and honey, so do the berries. Boil the berries with only a little water and leave to drain overnight. Then add about $\frac{3}{4}$ cup sugar to one cup puree, boil up and bottle. Seal at the top with wax and leave for about three months before using. When opened, use at about one part berries to four-to-six parts cold water. Stir and add ice cubes if desired.

Once opened, this will only keep for a few days, so it's best if you make it up in small bottles.

Stinging nettle (*Urtica dioica*): This dynamic plant has so many uses, you must grow it in your garden. A good source of iron, either taken as a tea or just added to vegetables put through a parsley cutter.

Handle with gloves and cut with scissors. If you are only picking a small quantity, hold the leaf firmly and it will not sting, as the little barbs are then crushed. It is the light touch which brings the sting.

Stinging nettle may be used as a base for herb teas. Add fruit and honey. Or add the nettle dry to alfalfa comfrey tea mix (see EG15).



Ready had the bright Sunne renewed the day e-
very where with his splendant beames, and the
Birds fate merrily fing on the blooming bran-
ches, yeelding testimony thereof to the eares of
all hearers; when the seven Ladies, and the three
Gentlemen (after they were risen) entered the
Gardens, and there spent some time in walking, as
also making of Nofe-gayes and Chaplets of Flo-
wers.

FURTHER SOURCES

1562 — *The Seconde Parte of William Turner's Herball ... with the vertues of the same herbs ...* Imprinted at Colleen by Arnold Birckman.

1608 — *A Closet for Ladies and Gentlewomen, or, The Art of Preserving, Conserving, and Candyng. With the manner howe to make divers kinds of Syrups: and all kinds of banqueting stuffes. Also divers soveraigne medicines and salves, for Sundry Diseases.* At London. Printed by Arthur Johnson, dwelling neer the great North dore of Pauls.

The Australian Botanic Guide, John Broadbent, Melbourne, 1887, 189 pp.

La Lavande Francaise, Sa Culture, Son Industrie, Son Analyse, Charles Mourre, Gauthier-Villars, Paris, 1923, 142 pp.

The Garden of Ignorance, Mrs George Cran (Marian Cran), Herbert Jenkins Ltd, 1917, 273 pp.

Flowers and Flower Lore, Rev Hilderic Friend, Swan Sonnenschein & Co Ltd, 1884, 704 pp.

Fragrant Flowers and Leaves, Donald McDonald, F. Warne & Co, London, 1905, 136 pp. (First edition 1895).

A History of the Cries of London, Charles Hindley, London, 1885, 390 pp.

Culinary, Scented and Medicinal Herbs, Felix Mermet, Glenelwyn Herbal Farm, Gundarone, NSW, 1955, 72 pp. This small book, printed by Advocate Print, Coffs Harbour, may well be the "first book on herbs published in Australia" as the author claimed.

Felix Mermet was a Frenchman who lived at Glenelwyn Herb Farm, Lowanna, NSW, in the mid-1950's. He published a small leaflet on Russian Comfrey in Australia in 1957 and Geraniums and Pelargoniums in Australia, 72 pp. These are in the State Library of NSW in Macquarie Street, Sydney. If anybody knows of his present whereabouts we would be interested to hear.

People who have assured themselves that it is less harmful to eat cabbages than chicken may have missed one or two pointers: that plants are not only highly sensitive, but capable of perceiving that you are about to harm them.

They even "faint" in the presence of a plant murderer. So the cells of an already dead animal may be far less able to feel further injury than those of a raw (living) vegetable.

If non-violence to sentient things is to be the main criterion by which we choose our food, we ought to confine ourselves to seeds and fruits and the bodies of animals accidentally killed; and never, never do anything so cruel as to cause a seed to germinate in order that we might eat the sprouted plant alive, as we do with mung beans and wheat grains.

Unless of course the "Early Drumhead" has a heart that positively responds to being eaten bit by bit? Some assurance that it does would be comforting to vegetarians. But *The Secret Life of Plants*, by Peter Tompkins and Christopher Bird, is not a very comforting book, not at all.

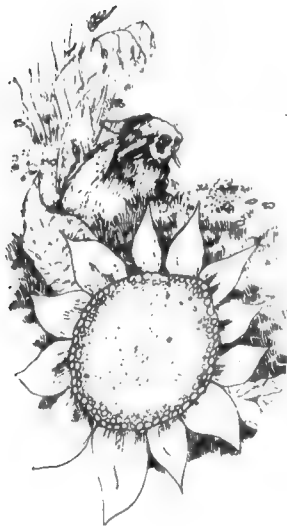
You don't weed the border or cut the lawn once you get the message. But time softens the petty scrupulousness of such *ahisma*. So does Chapter 20, concerning Findhorn, or the Garden of Eden. Did they not grow some 40lb cabbages there, on the arid sands of Scotland? And surely not so that Elixir and Divina could telepath the better with the *deva* in charge of cabbages?

So it's all right after all, being a vegetarian except that if the plant does not mind, why should the animal? Perhaps the final question the book forces you to ask yourself is whether you are giving out enough love, whether your spiritual life is keen enough to justify taking into yourself the bodies of harmless creatures that only live to serve?

It starts around the year 1966, when Lee Backster, an expert in the use of the lie-detector, found that it would work when he attached it to a draceana. It showed a sharp reaction to his intention to burn one of the leaves. Later he found that the reaction was totally blanked off in the presence of a physiologist whose professional duty involved roasting plants alive to ascertain the components of the ash. It took threequarters of an hour after her departure for the five shocked plants to recover their usual sensitivity.

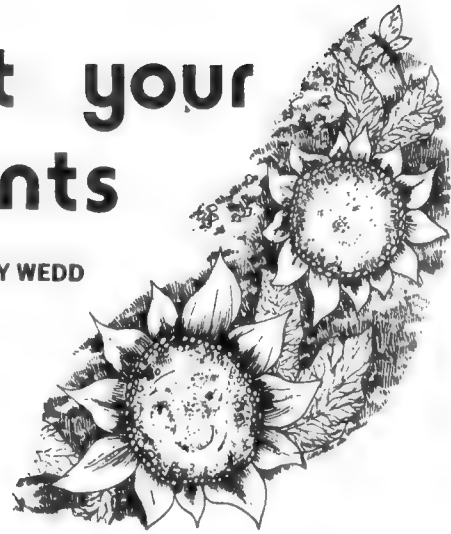
About two years later, after innumerable experiments, Backster published his detailed experiment that showed that plants reacted to the death of shrimps in boiling water "strongly and synchronously". Some 7000 scientists wrote in for reprints of the paper; and the thing mushroomed. They found that plants would react to sex and conversations about sex; they hooked them up to work the garage doors and reverse toy trains on being given a telepathic command; they wired them into loud speaker systems so that, as loving owners talked to them, plants could sing out their happy responses for all to hear; they played music to them, to establish what most pleased them — classical, eastern style or western but not heavy rock.

Russians were into it too, and at last the Kirlian photos became acceptable; they showed that a leaf with part of its margin cut away would print a picture showing where the original margin lay; they photographed a plant's ghost, or aura. All round the world they prayed to plants, they cursed plants, they loved a leaf to stay alive, its broken stem sealed over, for a month, while a control leaf withered away.



Smile at your plants

By TONY WEDD



They evolved a sophisticated lie detector; one where a plant is monitored, for it will react to a human lie as well as if the human being had been hooked up to it. So, in future, interrogation can be checked, without one's knowing it. And as if this wasn't enough, inventors came up with a gadget by which they beamed the radiations of a pesticide at an air view photo of a field. On a no-result-no-payment basis, the farmers were glad to pay a nominal dollar an acre for the treatment. Pesticides cost considerably more. Could one use this process to beam the radiations of a nerve gas at a photo of an enemy city? No, not a comforting book!

Evidently the breakthrough in parapsychology was on: plants had assisted in the birth of a scientific proof of extrasensory human powers, because such powers were now to be credited also to the plants. "The day science begins to study non-physical phenomena, it will make more progress in one decade than in all the previous centuries of its existence", say the authors, quoting Nikola Tesla; and add: "Perhaps that decade is upon us."

1968-78 may be the crucial dates. I think it would be legitimate now to speak of "Alternative Science", meaning that until we know just what limits we can place upon the capacity of people like Uri Geller to muck up our neat and "objective" experiments, we are foolish to enunciate the physical laws. As Isaac Newton prefaced his basic laws with, "provided God does not will otherwise . . .", a proviso our science teachers have conveniently dropped, so we too must seek the psychical or spiritual principles first, ask when God does indeed will otherwise; and on this basis, qualify the physical laws. "Alternative Science" is three-tiered: spiritual, social and physical, and cannot be unified except at the highest level.

Our first concession must be that every experimenter influences his experiment; our second must be that there are gifted people who not only seem to be able to talk to their plants, but have the capacity to listen to them too:

Luther Burbank and George Washington Carver in their time; but there are strange messages coming out from Findhorn this very day, people who live to serve, and have sensitivity to the spiritual entities that care, invisibly, for the plant communities. Call them fairies, if you will; or **devas**.

The old science was a false religion, and how its heretics were persecuted! Reich, Abrams, Brown, de la Warr, their various heresies are here fitted into a sympathetic framework. But Einstein's formula $E=mc^2$ gets an implicit pounding. Two French scientists, Louis Kervran and Pierre Baranger, have shown that plants "transmute" the elements. So a deficiency of potassium is of no concern if the plants have nitrogen and a healthy metabolism; magnesium can be made into calcium; calcium into phosphorus, and phosphorus into sulphur; and some of these transmutations are certainly reversible.

Kervran has totally demolished the garbage of the orthodox NPK school of farming (as if Sir Albert Howard had not done so already). The organic farming movement will triumph, unquestionably; a healthy metabolism can be constructed out of love, then.

By the end of the decade, I predict, there will be an accurate method of measuring man's capacity to love. It will completely replace the IQ as a measure of our educational streaming.

All men are equal; but some can love better than others; and they will be the meritocracy of the future. The terrifying **boulversement** we are in for it likely to ensure that when most teachers are found to be high IQ types, with low love potential; and the silly juggins who can't even read, at the bottom of the class, will be seen as an avater, a guru, to teach us what we have declined to put at the top of the curriculum.

This is where the spiritual science begins; and the primer of this science has been published in Penguin paperback.

bush echo

By CHRIS LIST

I would like to comment on a couple of articles in EG14: Firstly, by Bill Tongue on native tree planting, that "natives in cultivation need as much water as exotics".

I would disagree with that statement as it stands, for the following reasons: Unless native plants are from a very wet zone, they would almost entirely be suited to rainfalls of 20-26 inches, and would therefore need water at only monthly intervals during the first summer; thereafter the natural rainfall would be sufficient.

Natives now being cultivated in many cases are suited to very dry conditions indeed, for example **Melaleuca Amillarlis**. Another point is that if native plants are over-watered they do not develop sufficiently stable root structures to withstand strong wind conditions. Although natives will respond dramatically to generous watering, a far more stable tree will develop under natural rainfall.

Earth Gardeners should also be careful to select plants which are suited to their area — the above paragraph then applies without question. We have planted many hundreds of native trees, as there were only seven trees on the whole of our 31 acres. Our neighbour has planted native trees and others bordering on thousands, all with little or no supplementary watering. Our survival rate would be better than 90 per cent.

Mr Tongue's reference to the use of fertilizers is somewhat questionable, as the products named, if water soluble and nitrogenous, would be unsuitable for natives. Old cow manure is absolutely necessary, or undiluted blood and bone (without added urea) if you can get any, would be all that is required, except that acacias and other leguminous trees should be inter-planted.

Bill Tongue's losses of 20 per cent could be accounted for from the use of the fertilizers named. My neighbour experienced losses as a result of fertilizer applications.

The other article I would like to refer to is **Looking for Land**. I find James Laidlaw's article very much to the point. I would like to hear the feelings and comments of other readers with respect to "cash money

needs" of self-sufficiency. Also, as it is still occurring, the traps in buying land where the vendor is after a quick dollar.

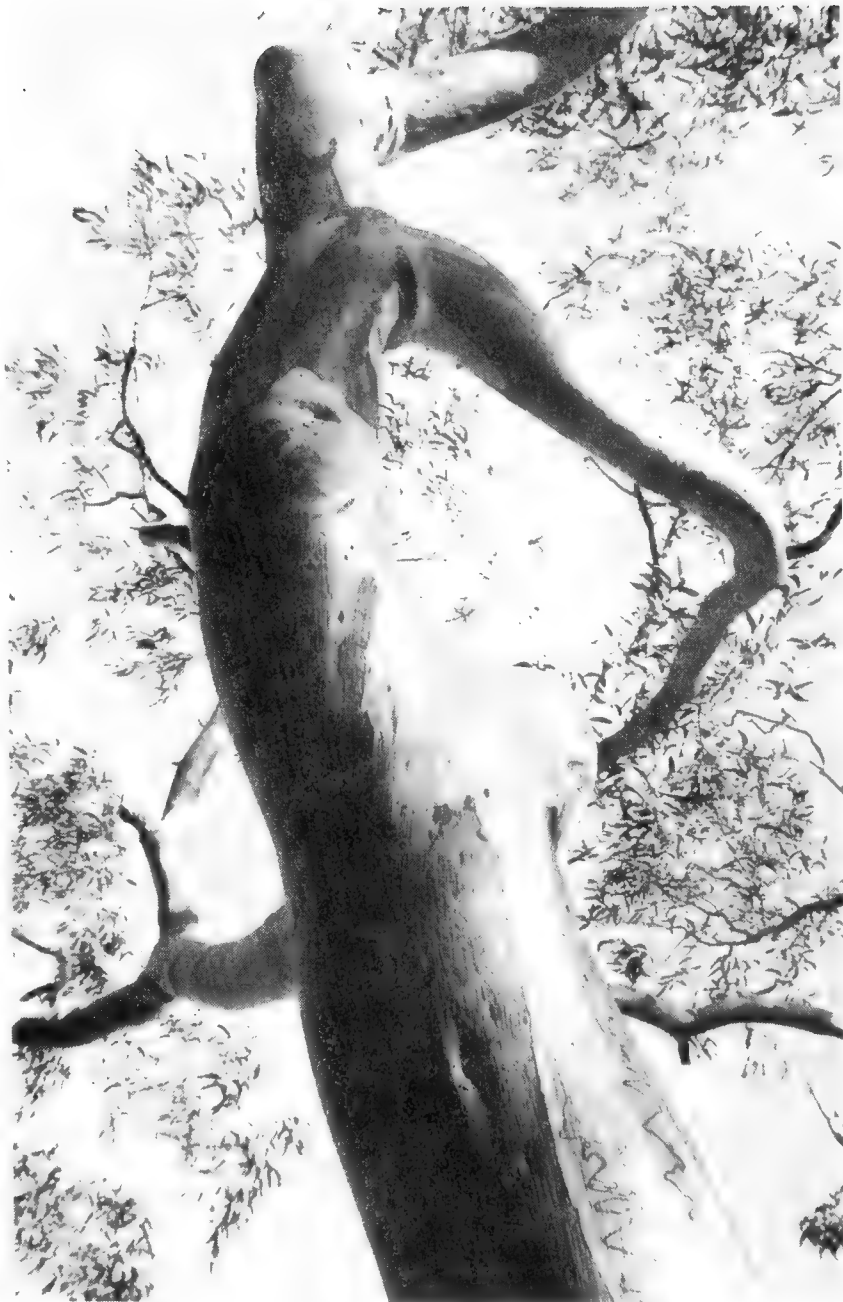
Prospective land buyers should most definitely get the feel of a district by referring to the locals, but don't be put off by what they say will grow and will not grow!

We would like to make it known to people in the Adelaide and hills district that we have available vegetables and goats' milk. Organically grown, of course, without the use of poison or chemical sprays. Veget-

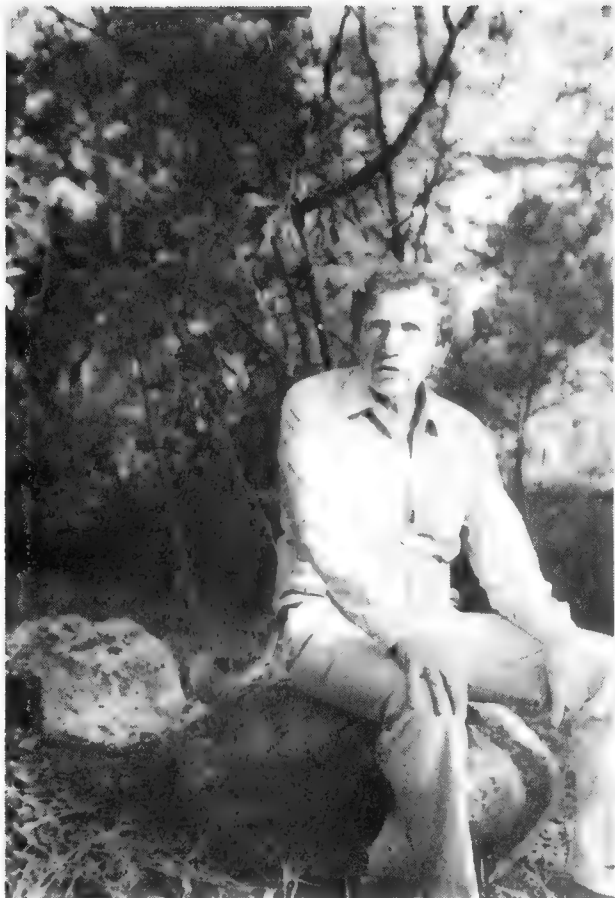
ables available include carrots, zucchini, pumpkin, tomatoes, watermelon, rock melon and sweet corn, and others in season. Write and we will forward directions, or if you can nose us out, come anyway (we're about one mile off the main road).

Could goat breeders with experience in breeding similar to that suggested by Abigail in her article please correspond with us? It appears local pure breeders have a lot of difficulty getting good does.

Chris and Gail List, "Dungowan", PO Box 67, Mt Pleasant, SA, 5235.



TREE: Photo by Greg Weight.



Gordon Ford

Gordon Ford designs and makes beautiful gardens for environment-conscious Victorians. He was one of the forerunners in developing what is known as the Australian environmental garden.

Twenty-five years ago Gordon began working with the late Ellis "Rocky" Stones, Australia's best-known landscape designer. He stayed for two years, attending school at night to study plant identification.

"Rocky had a great influence on me as a young man," Gordon says affectionately of his former teacher. "He taught me how to appreciate the sculptural possibilities of boulders and inspired me with his wonderful positivism."

Both men had been influenced by a woman, the late Edna Walling, who worked in the English cottage garden tradition. "There wasn't much scope then for environmental gardens and few people were growing native plants. In fact there were only about five varieties in cultivation until after the second world war."

Gordon Ford uses rocks, boulders and plants as pieces of sculpture. There are no gimmicks and the materials are all natural. He defines landscaping as "the juxtaposition of third dimensional objects by boulders and plants against the second dimension — time."

"I often bring prospective clients into my own garden to show them what happens in time. In most cases the dominant three-dimensional object on a domestic site is

Gordon Ford has this advice to offer people buying farmland who want to regenerate the land and convert it to native vegetation:

- If the land has been cleared for pasture or crops, there will usually be a large number of exotic "foreign" weeds growing profusely because there are no larger trees to inhibit their growth. In this case it is important to plant larger trees if possible so that they will cut down weed growth when they reach a reasonable height.

- Contact State Government or Forestry Department nurseries. They are always pleased to advise you on what types of shrubs and trees will do well in your area.

- It is difficult to look after many big trees because of lack of water in many places. Trees in tubes (like those you get at nurseries) will use less water and remain hardy.

- Mulching with straw and wood shavings in small areas of land, or dried grass in bigger spaces, will help keep your plantation warm in winter and cool and moist in summer.

Renewing the bush

BY GWEN OGDON

the hollow piece of sculpture, aesthetically good or bad, in which the humans live and scramble in and out of."

Gordon went to live in Eltham, outside Melbourne, in 1945. He worked as a builder's labourer during the day and built his own house in the evenings. "I was obsessed with the idea of turning a bare two-acre block into a heavily wooded area. I reckon there must be over 3000 trees and shrubs here now."

The first Ford family lived in an ancient cable tram until their house was at a stage where they could move in. "Our daughter Angela was six weeks old when we set up house in the tram, and six months old when we moved into the first rooms of the house. My wife Pauline made many of the mudbricks during the day, and I stacked them for drying when I returned home from work in the evening. When it was too dark for building we'd plant our trees by lanternlight."

The neighbours in the area had similar ideas and there is now a bush environment and bird sanctuary on this particular Eltham hill.

Few of the young men in the area had cars in those days. A friend remembers Gordon Ford staggering up the hill with a great double window frame tied to his pushbike heaving and straining and juggling about the unmade road trying to keep the load upright.

His house is certainly finished now. It's a rambling topsy-turvy building with steps leading into cosy nooks

upstairs. Balconies and joining bridges make the place a paradise for the children. From the downstairs sitting room you look into a bank of glowering grevilleas from which eastern spinebills, white-eared honeyeaters and wattle birds busily and delicately search for nectar.

Gordon Ford is passionate about the need for trees of all sizes and shrubs of all shapes. "There should be hundreds of big trees planted on all blocks. The green belt must happen in the head and the heart if the balance of nature is to be maintained.

"If only people would wake up to the need to overcome their primitive fear of trees near the shelter and be prepared to clean the spouting, rather than not have trees purifying the air they're breathing!"

He continues: "I get a great kick out of going into an anti-environmental situation and simulating a bush-garden. This brings back the native birds that have been able to adapt to suburban life. I must say that whenever I see people with cats I feel bad about planting native shrubs, even though they say 'Oh one thing my little cat never does is catch birds'. That's all emotional rubbish of course. The pretty little predatory puss will always be lurking beneath the grevilleas at dawn!"

He prefers working at what he calls the intimate, grass-roots level. "I do plenty of big-scale work in parks and gardens, but it's much more impersonal. Not that I'm knocking parks for people. But although there might be bush garden sections, park designs are still based on the landscape principles of the English gardens of the 18th Century designers, Capability Brown, Humphry Repton and others.

"The Australian environmental garden fits in very well with the ornate rococo qualities of Victorian architecture and also has the elements of simplicity which blend with modern buildings and don't need complicated gardens to compliment them.

"That is one reason for having a native garden, another is that it's the natural corollary of our new nationalism. People are at last becoming aware of the environment they live in. Thirty years ago we were talking about 'going home', now we say 'going to England' and 'home' is here."

Both Gordon Ford and Ellis Stones agree that younger people in the cities are getting away from the old English concept of gardening, and showing greater interest in Australian native plants. In the 19th Century the Australian bush was a frightening enemy and a terrible nuisance to its human occupants.

In country towns, there are very few bush gardens to be seen, Gordon says. "They can see all that within five minutes of the town and they want something different at home."

At 55 years of age, Gordon Ford is in good physical shape and health which he attributes to a daily mile run, a rigid diet and yoga breathing. "I used to be all sorts of a larrikin including a dietary one, but I'm very careful about what I eat now. I run at dawn each morning talking to my plants as I go. Of course I believe if you really love plants and handle them carefully they'll grow better.

Not being a landscape gardener is something Gordon Ford would prefer not to think about. "Old gardeners never retire," he says, "they simply wear out on the job."



brown boronia

A note from Lilian N. Callow, State Secretary, The Tree Society, 258 Mill Point Road, South Perth, WA.

Concerning *Boronia megastigma*, drawn by Terry Frey in EG13, page 19. You are incorrect in stating that sweet-scented brown boronia is a native of Queensland and NSW. It is sometimes also called Melbourne Boronia because it is cultivated there. However, it is a native of Western Australia — the Wildflower State.

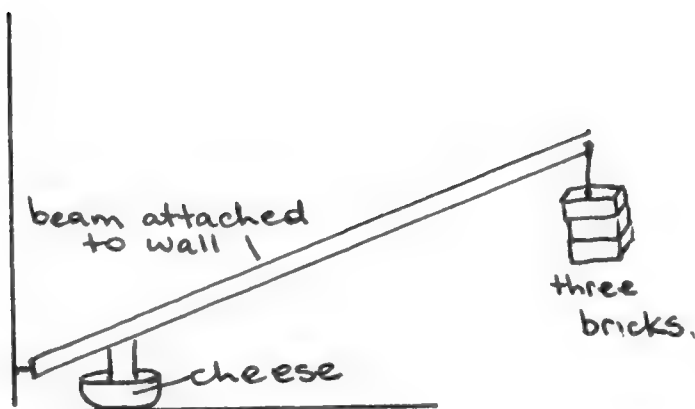
B. megastigma loves a sandy soil. Like all boronias, it is short-lived and it should be replaced after four or five years. It grows 2-5 feet and bears its wonderfully fragrant flowers from June to October. It is found in swampy country and needs constant summer and winter watering. Its shallow roots resent cultivation.

It does well in a large container or grows in the ground on the edge of the shadehouse, somewhat sheltered.

The Tree Society, established in 1956, has seeds of native plants, including a large packet of mixed wildflowers for 50 cents posted. Membership is \$2.



Hard cheese at home



the best, but beeswax or paraffin wax does the job. When you cut the cheese you'll find out why cheese wax is used.

It takes me about two hours to make a five or six pound cheese. The recipes I got from the Department of Agriculture take four hours. They recommend pasteurising, which takes extra time. I don't believe in that. Pasteurised milk which goes sour is dirty, off. Milk from the cow gone sour is nice to eat as yogurt. Hung up in a cloth it makes a cottage cheese which is all right.

COTTAGE CHEESE

This is the method which makes the best cottage cheese in the world:

Put a pan of milk on the stove. Warm it up till the milk is nearly boiling. Don't wait too long, for when it's boiling it doesn't work.

Put the juice of one lemon in the milk and take it off the stove. Milk separates then in curds and whey. Put the whole lot then in a pillow slip or sack made of cheesecloth and let it drain. Don't let all the whey drain out, otherwise it gets too dry.

By Diane Lebbling

To make a nice-sized cheese you need 8-10 gallons of milk (either cow's or goat's).

Apart from the milk, you need a few utensils:

1. A container to press the cheese in — this can be a metal pot with holes drilled in it. We use a wooden flowerpot (made in the Philippines and available in craft shops).

2. Cheesecloth.

3. Cheese press. Sounds complicated, but it's very simple; three bricks; a beam attached to the wall; cheese.

4. Plain junket tablets.

5. Big pans, holding 2-3 gallons each.

6. A woodstove is very easy to work with, but of course gas or electric stoves do the job.

Well, when you get this together you can start making your cheese. You put the milk on the stove (use skim milk if you like, so that you can use the cream for butter). Warm it up to body temperature. Take it off and put the crushed-up junket tablets in a bit of water in the milk — use one tablet to two gallons. Leave it stand for about 15 minutes.

Now the junket has set. Take two knives with flat handles so you can hold them against each other. Other-

wise one knife will do. Cut the curd in all directions until it's all flaky.

After this you put it back on the stove and warm it up under continuous stirring until all the flakes stick together. The temperature then should be so high that you can put your finger in it for only a few seconds. Right. Take it off the stove and let it stand for about five minutes.

In the meantime, you've lined the container with the holes with cheesecloth which should be hanging over the sides enough to cover up the top afterwards. Now pour off the whey (good for calves, pigs), and the curd goes in the container.

Repeat this process until there is no more milk, or enough cheese. Fold the cheesecloth over on top and put on a lid. Then it should stay under the press for 24 hours.

Here's your cheese. Take it out. It looks white. Put it on a wooden plank and rub salt over the top and sides. Twenty-four hours later, put salt on the bottom. Do this until each side is salted twice. The salt draws whey out of the cheese.

After this the skin has formed. Just leave it, turning the cheese now and then from one to three months. In hot weather the cheese will sweat a lot. You can prevent this by putting wax on the outside. Proper cheese wax is

HERB RENNETS

I was interested in Avril Webb's article Cheese Starter in EG14 (page 41). I haven't made many cheeses, but I wondered if she had tried using nettle (*Urtica dioica*) for a rennet?

She seemed to have gone to so much trouble for a non-animal rennet that possibly she had tried it. However, a rennet comparable to others may be obtained by boiling some nettle leaves in very little water, then straining them and adding the liquid, when cold, to warm milk.

I obtained this information from Garden Herbs for Australia and New Zealand, by Christina McDonald (Reed), which is a useful little book.

— Bryony Hays, Cumnock, NSW.

Note: Lady's Bedstraw, or Herb Rennet (*Galium verum*), was used as a rennet in former times. It isn't a common herb in Australia, but certainly curdles milk and also colours cheese. It was used sometimes with stinging nettle. — Irene & Keith.

The Essene diet

By Bruce and Jane Gilham and Winifred Pitt

For centuries mankind has devoted a great deal of otherwise useful energy in devising methods of killing more efficiently. Starting with the club, he has progressed from the battle-axe, sword, and bow and arrow, right through to the rifle, cannon, the mighty bomb and now modern germ warfare.

Perhaps the philosophy of the new age now dawning should follow an about face from this previous attitude. Imagine if the world should concentrate not on methods of destruction, but rather on methods of construction.

The obvious first step is to turn away from the omnivorous diet to the vegetarian diet. This at least facilitates the minimisation of the slaughter of highly sentient animals, which are so similar in their mammalian physiology to man, that the consumption of their flesh could almost be interpreted as cannibalism, especially when one views man as a member of the greater mammalian species.

Vegetarianism can even be taken a step further. I speak not of veganism, the total lack of intake of animal products, as even this philosophy is not strictly sound moral practice when viewed in the light of such scientific evidence which is apparent in such books as **The Secret Life of Plants**, and **Supernature**, which have all but proved the reaction by electronic equipment of seriously injured, sick or suddenly destroyed plants, which produce graphs similar to human beings under these precise stresses.

In this light it is perhaps better to partake of a vegetarian diet without the necessity of terminating the life-cycle of plants. When one ponders this in detail, there is very little produce a vegetarian finds himself forced to do without.

POTATOES — Potatoes ideally are not dug until the plant has withered and died. If the eyes are removed from those potatoes intended for human consumption, the life cycle of the plant is in no way disrupted.

PUMPKINS — Can be treated in almost the same way as potatoes, except that in this case seeds are saved instead of eyes being removed.

BEANS AND PEAS (INCLUDING SOYA BEANS) — These are removed for human consumption without terminating the life of the plant. In fact, if one wished to be truly conscientious about this matter, one seed could be saved for replanting from each pod.

SPINACH OR SILVER BEET — This is generally cut several leaves at a time, thus allowing the plant to flourish and produce more leaves.

BRUSSELS SPROUTS — These plants are members of the cabbage family which can be removed and eaten without the destruction of the mother plant.

HONEY — There is no terminal activity involved in hive robbing provided the bees are left enough honey to last them through the winter.

FRUIT — Fruit is harvested without destroying the parent tree, and in many cases the seed or stone from the fruit can be replanted.

EGGS — Can be eaten unfertilised.

TOMATOES — These are generally removed with very little damage occurring to the parent plant.

CABBAGES, CAULIFLOWERS AND LETTUCE — These plants seem to be an exception, as the whole plant is removed, and thus its life-cycle is terminated.

CARROTS — These vegetables are an interesting exception. As one-time school children, most people are no doubt aware of the flourishing of a carrot top in a saucer of water. If carrots are removed from the garden only as required, the tops sliced off immediately and replanted, they normally continue to flourish, thus providing ample seed for the following season, but far more importantly, they are allowed to complete their life-cycle, without termination by human thoughtlessness.

We, as practising Essenes, and great followers of the translations of the ancient Essene scrolls by Professor Edmond Szekely, firmly believe in the right of all forms to complete the cycle of life intended for them on this earth. In other words, we sincerely believe in our lack of authority with regard to destruction in any form.

The fact that man may have dominion over all else that lives upon the earth, means simply to us that we must protect and aid nature in every way possible. A true lord of his subjects does not, in our opinion, assert his dominance by violence and misery, but rather by protection, compassion and love. Evil is not removed by its destruction, but is rather diminished by the strengthening of all that is good.

" We are almost in total agreement with Tony Wedd's views expressed in his article **Heal Thyself** (EG14), dealing with the lifestyle and philosophy of Paul Bragg. But we would like to take up a few points that Tony mentions and point out our side of the picture.

Tony reasons that by **not** being vegetarian, one is more in accord with "the ideal of self-sufficiency". He asks where animal dung for the compost heap will come from if there aren't a few beasts around the place. We wonder how many meat-eaters sit down to draught-horse steaks, or for that matter, casserole donkey? The dung of the vegetarian human beast also comes highly recommended.

We have sheep which we run for wool (Jane spins and weaves). We have ewes and wethers, but no rams. No slaughtering problem there. If a vegetarian wants to breed sheep, why not? Black sheep are seldom slaughtered these days, owing to the upsurge of interest in the craft of homespun wool.

Homes can be found fairly easily for goat bucks too (it is a rather debatable question as to which method of ensuring non-production is the more humane; castration or separation). They can prove quite valuable on a property with an over abundance of blackberries and also provide excellent, ready-pelletised fertilizer for the garden. Angora bucks pay with their fleece as well.

In our opinion there is seldom, if ever, any real need to slaughter. In fact, we would suggest that it is far easier to attain self-sufficiency on a vegetarian diet than on an omnivorous diet. An interesting point to note is that Paul Bragg recommends, when resuming normal diet after fasting, eating a raw vegetable salad. "Never resume with animal products."

We would welcome contact from people of like minds. Write to us at PO Box 133, New Norfolk, Tasmania, 7450.

SURVIVAL Into The 21st Century, Viktoras Kulvinskas, Art Jean White, OMango d'Press, PO Box 255, Wethersfield, Connecticut 06109, USA. Price \$US9 posted.

So many subjects are dealt with in this inspired book by Viktoras Kulvinskas, author of *Love Your Body* (see EG10) — and all drawn from so many sources — but they shine with the light of conviction and love.

There is something unique on every page. The main emphasis is on fruit, raw sprouts, grasses and spiritual development. But subjects well covered include fasting (and even foodless living), longevity, vegetarian and macrobiotic diets evaluated, indoor organic gardening, yoga, natural healing, weeds for health and survival, fruit feasts, tropical settlement, natural childbirth, how to be happy, juices, sources and New Age books.

To quote Viktoras: "The book represents four years of preparation, which involved two years background study at Harvard Medical Library, self-experimentation, plus observing the consequences and rejuvenation of other while acting as a dietary 'guru'." The personal experiments are graphically shown in a series of photographs of the author at various stages of his life since 1958, the effects of various diets etched on his face telling the story.

"By 1965, I knew all the nurses and doctors at the infirmiry", writes Viktoras. "They were very generous with tranquilisers, sleeping pills and pain relievers. These I added to 15 cups of coffee and two packets of cigarettes per day, plenty of alcohol, chronic over-eating (by age 26 I was a chubby 190 pounds).

"... One doctor introduced me to Ann Wigmore (director of the Hippocrates Health Institute, Boston). At the Mansion I became acquainted with grass juice and sprouts. The meal, served in famine proportions, looked wriggly; but it satisfied my appetite and agreed with my body.

... With a cleansing diet my weight dropped, in a period of six months, from 160 to 95 pounds. As my body started rebuilding I gained weight and now weigh 135 pounds."

Illustrations of *Survival* are by Jean White and the cover by Peter Max. Comedian and Vik's friend, Dick Gregory, wrote the Introduction. These are some recipes taken from the book which give some idea of its scope:

SWEET COMFREY SOUP

15 medium leaves comfrey

1 small chopped zucchini

½ avocado

1 cup carrot juice

Blend ingredients and serve.

COOKED COMFREY SOUP

Lots of comfrey leaves, include stems and flowers. Chop up fine. Cover with water. Bring to a boil. Simmer for a few minutes. Cool. Blend and serve over baked potato or with wakame or dulce.

SPROUT SALAD

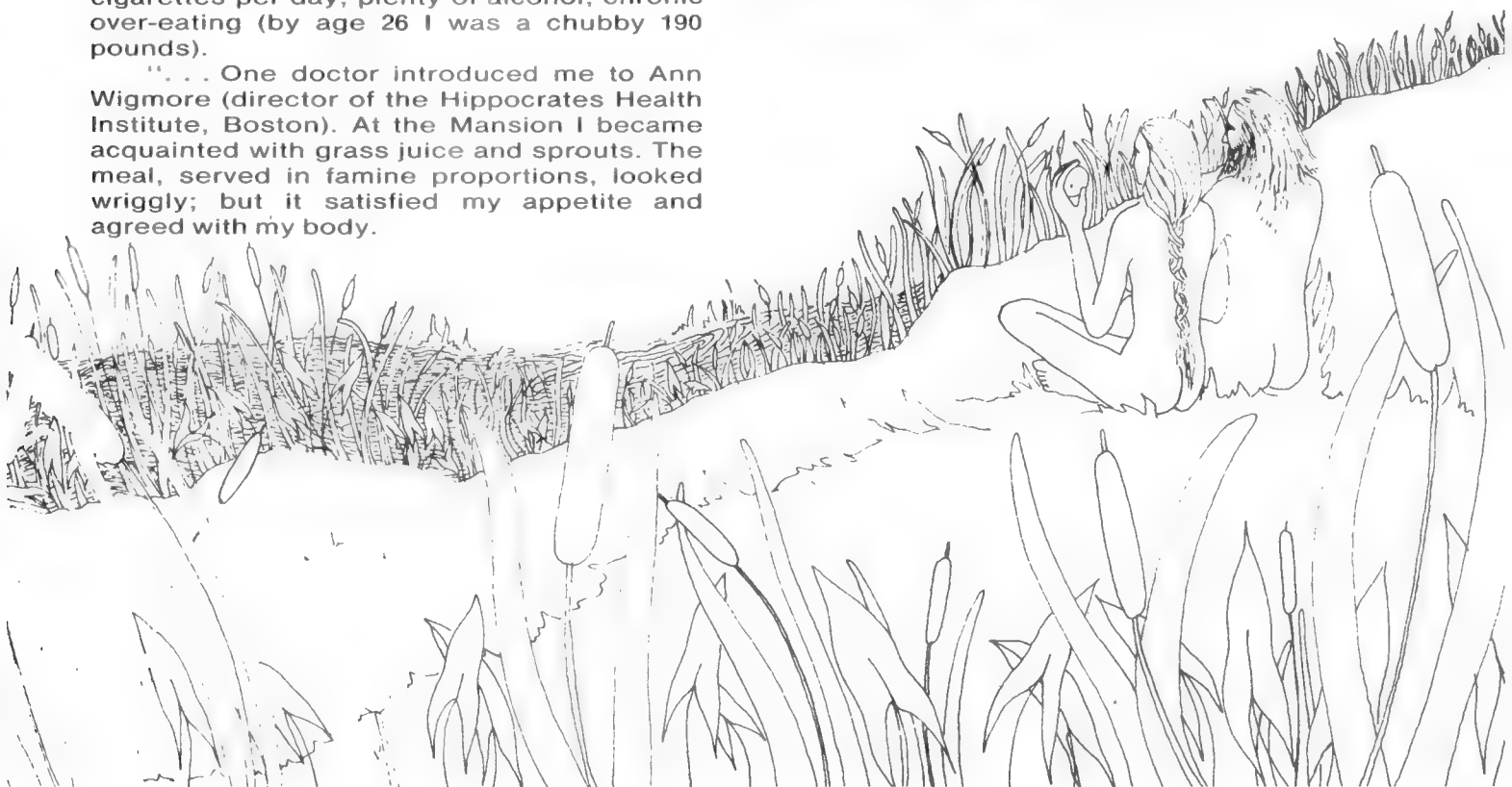
6 parts mung beans

1 part alfalfa seed

1 part lentils

1 part funugreek seed

Mix seed in buckets and soak for 16 hours. Transfer to buckets with holes perforated in the bottom. Grow for three days in a warm room, flooding the sprouts with water at least 3 times per day. During rinsing, many of the seed hulls are skimmed off the top of the bucket. This method is for growing a large quantity of seed with a minimum of labour. Refrigerated, will keep for up to 4 weeks.



On the cards

By BARRIE MATHER

Have you noticed how expensive information is getting these days?

Having gone to the trouble of finding a piece of information which you think is or might be interesting or useful, doesn't it seem logical to give some thought to how you'll store it in case you need it again?

I think so: to do otherwise is like raising your own food, then bundling raspberries, potatoes, wheat, lamb chops and honey into an onion bag and hoping that they won't get lost or spoiled. Sure, it's a bit of a hassle, but if you can alter your lifestyle to include bottling, smoking, pickling and drying, preserving information shouldn't be too much of a problem.

The trouble with information is that it may come in big pieces (like books), middle sized bits (magazine articles) or slivers (newspaper cuttings). To say nothing of maps, pictures and verbal descriptions. It may be mixed with greater or lesser quantities of information which we find of no interest, or with words which do not contain any worth-while information. Sometimes the paper on which it arrives belongs to us so that we can, if we wish, separate it from the surrounding irrelevancies with a pair of scissors; sometimes we can copy it — and sometimes neither of these is possible.

Dr de Alarcon (Lancet, 1969 (i):301) described a method of constructing a personalised tool for obtaining access to information in any of these forms, using only good reading habits, two boxes of 8in x 5in cards and a foolscap box-file. Let me first describe how to store information about magazine articles, then how to adapt the method for other documents.

First, spend a few odd half hours making a list of topics which interest you, and arranging them in alphabetical order — it doesn't matter if you leave something out, it'll go in later, and it doesn't matter if topics overlap a bit.

I have 58 topics, from "Alternative Energy Sources (see also Solar, Hydraulic and Wind Energy and Hydrocarbon Fuels)", "Bees and Bee Products" and "Birds (other than Poultry)" to "Vegetables and Herbs — Preserving and Preparing", "Water (other than as an energy source)" and "Wind Energy — Collecting and Using".

Next, take some cards, rule them into ten equal columns, number the columns 0 to 9, and write one of your topics in large letters across the top — like this:

FENCES AND GATES									
0	1	2	3	4	5	6	7	8	9

You may find it helpful to list all your topics on one card at the front of the deck, to remind yourself of some of the less frequently used headings. These cards form your Subject Index, and are placed in alphabetical order in one of the filing-card boxes.

Cards in the other box form your Citation Index, and are numbered sequentially. Whenever you find a magazine article that interests you, take a blank card, put the next number in sequence in the top right corner, write information about the article on the card, and place it at the back of the deck. Note that the number sequence is the order in which you read the articles, and is not affected by when or where they were published.

Information which you may record on each card includes the title of the article and its author, the magazine in which it was published and the date of publication, a list of topics discussed, a brief description of points covered by the article, any criticism which you have of them, and whether or not you have a copy on your bookshelf.

Let's consider each of these pieces of information in turn. The name of the article, its author(s) and the place and date of publication are necessary if you want to be able to find the article again. The list of topics discussed is the nitty-gritty of the whole exercise. The list must be drawn from the list of topics which form your Subject Index, and the habit of selecting appropriate topics while you are reading the article is the "good reading habit" which you must acquire if constructing the index is not to become too much of a hassle.

Even a short (1500 word) article should have at least two topics, and a longer one may have as many as eight. I'll come back to this list of topics in a minute.

The summary and evaluation of the article are not necessary if you're in a hurry, provided that the author has selected his title properly, but they can be useful in two ways. Firstly, they may save you having to ferret out the article and read it again if it turns up as a possible source of information which you may need in the future: and secondly, knowing that you are going to write a summary encourages you to read the article carefully and critically.

Finally, knowing that you have a copy of the article may save an unnecessary visit to the library (I record this by writing "Reprint" in the top left corner of the card if I have a copy of my own).

The remaining part of the system, the foolscap box-file, contains copies of articles which have been cut or copied from magazines, together with pamphlets, diagrams, maps, plans and other slim documents which may get lost if they are stacked on a shelf. Each item in this collection is marked with the same number as the Citation Index card which describes it, and items are kept in numerical order.

The whole system, therefore, consists of a Subject Index (in alphabetical order), a Citation Index (in numerical order) and a collection of documents (in numerical order, but with gaps, since you won't have a copy of every article listed in your Citation Index). And if you're anything like me, there will be a drawer full of articles which you're going to index when you've got that bit of fencing fixed.

Now, let's get back to the list of topics. Having decided on the topics under which an article is to be indexed, take the appropriate cards from the Subject Index and write the serial number of the article in the

column of the index card which has at its head the number which is the last digit of the serial number. (I know that sounds a bit complicated, but once you have learned the trick, all the hard work is done.)

After a while, your Subject Index will be a number of cards which look something like this:

CEREALS									
C	1	2	3	4	5	6	7	8	9
	221		73	54 74 154			37 147	448	169

Magnificent! But how do you get information out again when you want it? I mean, isn't that what this is all about? No worries: it works like this (here I must use an example from my own files, because your Subject Index will be different). Suppose you want to know something about the design of crutching cradles. Take from your Subject Index the cards for the topics involved. "Sheep" and "Management and Control" are good starters. All crutching cradles that I have seen were made of metal, so "Fabrication and Building Methods — Metal" should be included, and "Tools and Equipment — Farming and Gardening" might also help. Lay the cards one above the other, like this:

SHEEP									
0	1	2	3	4	5	6	7	8	9
10 130		2 32 72	43	14 24 64	75				39
MANAGEMENT AND CONTROL									
0	1	2	3	4	5	6	7	8	9
10	21			64 124			87		
FABRICATION METHODS — METAL									
0	1	2	3	4	5	6	7	8	9
	51 211	72		54 64 214	15		27 217	98	
TOOLS — FARMING AND GARDEN									
C	1	2	3	4	5	6	7	8	9
11C 31	11 31	32 52 72		34 64 74			37		19 39 159

and look for numbers which appear on all cards. Only one number, 64, meets this requirement. Card 64 in the Citation Index reads: "Plans of a crutching cradle published by the Victorian Dept of Agriculture (1975), Reprint."

The plans are in the box-file. All you have to do now is build it.

That's the basic system; it can be made more useful by adding a number of refinements.

Refinement No 1. Books and Clippings

It's not worth indexing books if you own them, because you will know what they contain, and books have their own indexes anyway. But if you borrow a book which might be interesting, you can index it by listing the chapter headings on a Citation card together with a note of where the book can be obtained if you want it again. Newspaper clippings and other small snippets of information can be dealt with by gathering a dozen or so related clippings in an envelope and treating them as though they were a single magazine article.

Refinement No 2. Special Cards

Your Subject Index can include a few special cards which considerably add to its power to recover information of a particular type, or from a particular source. You might, for instance, have cards headed "Buckminster Fuller" or "The Eltham Group" if you have a special respect for the views of these workers on subjects which interest you. "Clippings, Hints and Addresses" tells you what sort of information a particular Citation is likely to contain. "High Rating" includes references which are exceptionally informative or interesting in their field, and "Quotations" directs you to where powerful thinking has been clearly expressed in few words.

A card which I find particularly useful is called "Research and Development". Occasionally an article will suggest a line of investigation which might lead to a better way of doing something, an unusual crop which might be worth trying, a possible source of a desirable piece of equipment, or some such. When this happens, the idea is noted on the Citation card, and the citation is indexed on the "R & D" card in the Subject Index. This card is checked from time to time to keep ideas active.

Refinement No 3. Community Index

This one I haven't tried yet, but I'd like to. The purpose of this refinement is to draw the attention of people interested in Homesteading and Alternative Lifestyles to articles which might interest them published in magazines which they are not likely to read. The idea is based on the assumption that somebody interested in Homesteading has read the article. For instance, over the last few months I've found an article on curing hides in a gun magazine, on Transcendental Meditation in a journal for nurses, on vegetable mini-gardening in a women's paper and on the design of fuel holders to increase the heat output of log fires in a famous American weekly news journal.

Every journal published must be read by someone, somewhere, who has an interest in Alternatives and who could survey the contents of journals which he reads regularly for articles which would interest other "back-to-the-land" folk. If we all had the same topics in our Subject Indexes, all we would need would be a way of publishing this information.

more letters

Dear Keith & Irene,

Thanks for the incredible amount of work and research you both did in producing the Lytel Herball — a real credit to Earth Garden and just what we've been waiting for! We've just completed a move from Sydney — to Newcastle — with as many potted herbs as could be salvaged from our Sydney garden. Luckily we were able to find a house to rent out of the smog area, with bush across the road and a fairly big yard, so it is slowly beginning to look herbaceous around us again.

Our borage plants have almost reached pest level, they're growing so profusely, and the bees are loving it! Hoping your new garden is coming on as well as ours here. It's a big thing to have to start from scratch again — but very refreshing!

Thanking you for the invaluable info, Jenny and Steve Felton, Newcastle.

Dear Jenny and Steve — We wish borage was a weed in our garden . . . it would be our favourite weed. It is a plant we really love.

— Irene and Keith.

Dear Keith and Irene,

I would like to write about our life here at the Walsh River, 13 miles west of Herberton. We call ourselves the "Walsh River Settlers". There is my mother, brother, sister and I. We live on a miner's homestead lease but eventually we hope to live on our 75 acres on the other side of the hill.

We have very poor soil up here and we are struggling to make it alkaline because it is very acidic. We too (as I have read so many times in Earth Garden) are working towards self-sufficiency. We have been here 10 months.

All we have at the moment are some chooks, dogs and a garden. We hope to get black sheep for wool and some cows. Just recently I have taken up herbs and I've found a lot of interesting things about them.

Here's a tip about bananas: If you feed bananas with compost regularly in the first six months they will produce more bananas when they grow up. For our garden we have a Compostumbler and make barrels and barrels of compost. We take our truck out to get rain-forest soil and mulch.

To make our garden beds, we choose a shape and dig it out a foot and a half. Then

we fill it with compost, chook manure, cow manure, hay and soil. We cover with mulch and mix dolomite with it and leave it for a couple of days to wash in. We water the bed regularly.

Another project we have is making bamboo curtains: by getting young shoots and cutting them into small pieces about two inches long and threading them on fishing line and putting a bead between each piece.

After that we nail the strings on a piece of thin timber and hang them in the doorway.

Love and peace
Evelyn Cameron
Herberton, Queensland

Dear Irene and Keith,

I am gradually getting a vegetable garden into production. Having despaired of digging up the clay in the backyard, I had the area rotary hoed, then formed it into beds and left it to grow weeds. As these came up and prospered, I dug them into the soil.

Then came some horse manure and more weeds which were dug in. Finally I have some soil which looks more suitable for vegies — I've managed to grow peas, beans, carrots, turnips and tomatoes. To get the carrots and turnips to grow I dug a furrow and filled it with potting compost. This worked, whereas they wouldn't grow when I planted them directly.

In spring of '74, I arrived home at 11 pm with a lone comfrey plant and rushed out into the garden and planted it in the first spot I came across. This was a mistake. Come spring this year I had to shift it. I dug up the roots and divided it into seven, planted four and gave three away. Then the others started growing from bits of root left in the ground. Result — 16 more plants for self, plus dozens more to give away!

Regards, Mackay Alexander
Page, ACT

Dear Keith and Irene,

I would like to thank you for such a fantastic magazine and threaten you with violence if you dare stop.

Thanks to EG I joined the **Australian Donkey Breed Society** (\$12 and worth every cent — Secretary, Mrs V. Lewis, PO Box 28, Brookvale, NSW, 2100). Although I'm still saving up for my donkey, the society members couldn't have been more helpful and patient with all my amateur questions. The total number of donkeys registered with the society stood at 1327 at the end of 1975. However, there were more registered during 1975 than for the total of the previous three years.

Does anyone know of any books on ducks? I drew a blank with the Dept of Agriculture and local bookstores. I have all the EG articles, but would like to know more, such as:

Are there identification rings for ducks (preferably different colours)?

How to tell the approximate age from ducklings to ancients?

I identified the drake thanks to EG, although they all had nervous breakdowns while I caught them one by one by the neck to find out which one hissed. I have Khaki Campbells — seven ducks and one drake. Just thought of another question — do two drakes fight, the same as roosters?

Best wishes
Maxine MacDonald
89 Sinclair Crescent
Wentworth Falls, NSW, 2782

Dear Keith and Irene,

It's the wet season up here. In December we got over 20 inches of rain in as many days. Beautiful for the garden. Got just enough sun to make it bloom. We ate zucchinis and pickling gherkins in five weeks. With the help of a couple of friends we put a temporary roof over our half-completed mudbrick house — and we are absolutely dry.

Love and peace
John & Maureen Selman
Cooktown, Queensland

Dear Keith and Irene,

Six months ago I moved on to my own few acres and already I am self-sufficient in vegetables and have lots of young fruit trees planted. There are a few old trees, citrus, plums and peaches and a gorgeous Macadamia nut tree.

So, I am really enjoying the good life . . . even hard work.

Peace and love, and a good harvest
Lin Turner
Kendall, NSW

Dear Earth Garden,

I am on my second reading now of the past issues and continually refer to various subjects. Certainly a great magazine and I am sure fellow readers have, as I have, a deep appreciation of what it provides.

Opportunity knocks but once, so we are told. I have been looking for some acres for several years. At auctions, watching newspaper ads, peering into the very interesting contents of country estate agents' window displays. Some nice blocks, but oh, the prices.

Just before Christmas a friend of mine in a small country town informed me his neighbour had seven acres to sell. A running creek flushes the boundary with clean, drinkable water. Its banks are lined with shady green trees. The soil is a dark loam. The view up the valley to the distant hills is in the oil painting category. And the price! An opportunity-knocks-but-once price! We bought immediately.

As it is 60 miles from my present home, we can build it up over the next couple of years then go in as permanent residents. So, Earth Garden readers, keep trying, and best of luck.

Bernard Butler
Shoal Bay, NSW

HOMEMADE

HUGH GOLDUP WRITES ON HIS HOME-MADE CEMENT MIXER, A SEWING-MACHINE SPINNING WHEEL, RUG LOOM, SOLAR SHOWER, WIND-GENERATORS, BOTTLING AND BUILDING.

Hugh Goldup is a citrus fruit farmer on the Murray River in Victoria, but we wonder how he ever gets time for harvesting and packing his fruit. Hugh is an inventor and tinkerer, who can turn his hand to a great variety of practical tasks using scrap and second-hand materials.

These points are condensed from several letters written to Earth Garden and demonstrate Hugh's ingenuity and talent at "do-it-yourself".

SEWING MACHINE SPINNING WHEEL

When I built the sewing machine spinning wheel (pictured) I hadn't seen any type of wheel before, so I had to work it out for myself. I hadn't seen a wheel using the twin belt drive to compare pulley sizes. When I saw a photo of one, I figured this one has the pulley sizes reversed. I have the bobbin going faster than the flyer, but it works anyway.

I'm making my third spinning head to fit an old treadle type sewing machine now. The first one I swapped for a super fine Merino fleece — beautiful silky wool. The lady who has it told me that, although she has a traditional wooden horizontal wheel, she much prefers the home-made job. Reasons being . . . tension is easier to adjust and it is easier to thread.

I had a go at a traditional wooden wheel for the first time recently. Hope to build one someday. I've built a wood turning lathe which has enough capacity to handle a wheel of 2ft diameter.

VEGETABLES

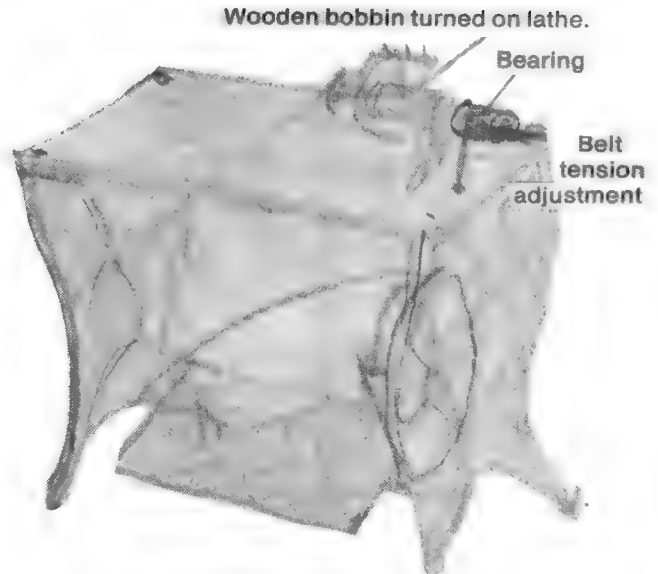
I noticed in one Earth Garden that someone pointed out that you don't have to cut a lettuce, but can remove leaves and let the plant grow some more. I've done this with endive and we always do it with spinach. Most people seem to pull out the plant. I've also cut a cabbage and then let it grow several more heads which were harvested.

WIND GENERATORS

One thing that disappointed me about Earth Garden's windpower articles was the fact that I thought I had invented a completely new design, but, as usual, found it has been around for a long time — the Blyth and other horizontal mills. I had decided to build a small one to start with to see how it went. I still will as I have a few ideas on improvements to increase general efficiency and to control maximum speed (a form of feathering).

I think I was about 10 when I first became interested in wind generators. I made one using a bike dynamo, to which I attached a home-made tin propeller. It worked well enough, except in a strong wind it would overspeed and blow out the globes. It was, of course, only a toy.

I recently bought a 32 volt generator which is "as new". I bought it at a clearing sale for \$10.00. It should be okay to use on a wind generator.

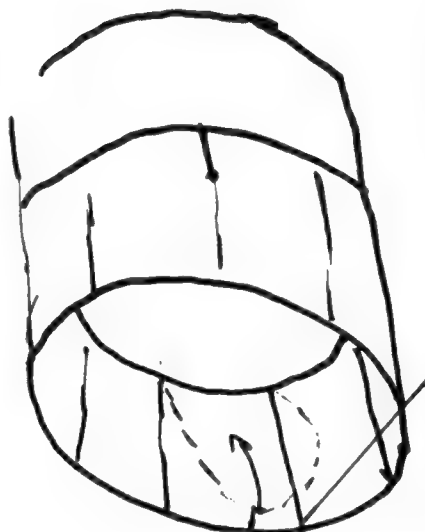


SPINNING WHEEL

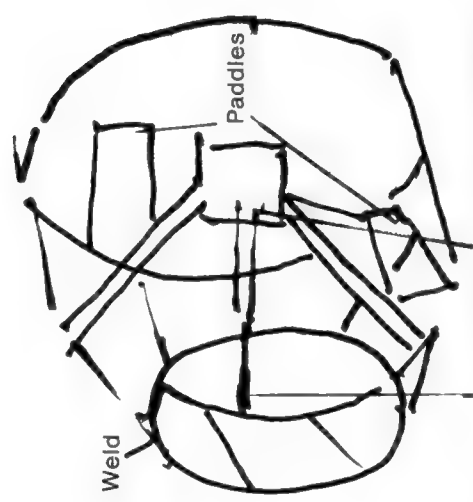


Hugh with the sewing-machine based spinning wheel.

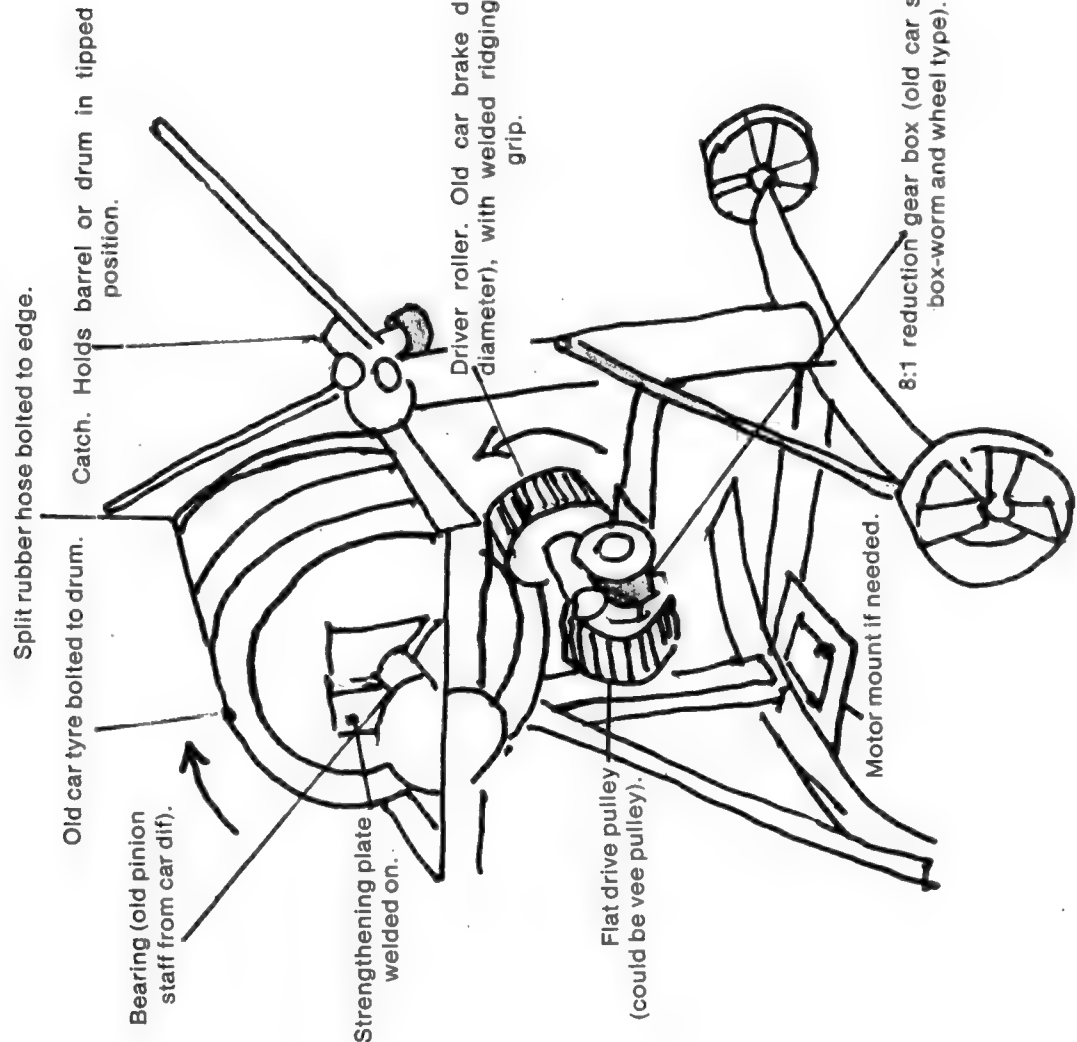
Drum made from 2/3 of 44 gallon drum.



Cut, then fold in to taper drum from 24in diameter to 16in diameter.



Centre 1/4 steel plate welded in.
4 struts welded from outside edge to centre.



SCRAP CEMENT MIXER

After reading Earth Garden 9 and 14 covering stone rubble building, I thought a sketch of my home-made (from scrap, as usual) cement mixer may be of interest. Have used 1/3-horsepower electric motor to drive the mixer, but now use belt drive from the steam tractor. A handle could be fitted to the small diameter end to turn by hand.

We got the sand for the cement from a sandbar on the river. We had to buy cement and aggregate though!



Hugh uses the home-made cement mixer. The wheelbarrow was made from scrap steel from the tip.

SOLAR SHOWER-TOILET

I have been busy building a toilet-shower which will also incorporate a new hot water system connected to solar absorbers and a solid fuel donkey boiler. I will also add a stand-by generator, steam-powered and fired by either methane, sump oil or wood.

What got me started on a flush-type toilet was the idea of methane production. We have always had the typical Australian bush "dunny" using a big pit. This is my first attempt at building with concrete bricks, and I found I quite enjoyed it after a while. As well as giving a better looking and more solid job than timber-framed construction, it is also cheaper.

I used a solar hot water service a few years ago

when we were building the A-frame and living in the cottage. This used a home-made absorber which was never finished. I never got around to glassing the case, which rusted out as a result.

Recently I bought two absorbers and will finish the home-made one and also build another. I have found that the best water tanks to get for a solar hot water system are those which were once used in conjunction with a slow combustion stove or a donkey boiler. These tanks can be bought at second-hand places, or even white elephant auctions.

I have three. Each is fully insulated, has inlet and outlet pipe connections and also two connections for circulating pipes. They hold 40 gallons each. The three cost me a total of \$45.00. I have a few ideas for increasing the effectiveness of the solar absorbers, which I will be testing once I get it installed.

RUG LOOM

I've finally got around to building a simple rug loom. I've been going to do this for about five years. Made a floor runner, sort of Mexican design, pretty rough. I could add rollers, but I'm quite satisfied with it as it is. The warp goes right around. Heddle is rigid.

LEMON WINE

Cut up 5 dozen lemons and put into a plastic bucket with 5 gallons boiling water, 8oz sulphite. Three days later, add 16lb sugar and some wine yeast. Bottle three days later into gallon jars with a fermentation lock. Bottle into wine bottles about three months later. (Note: Hugh's beer recipe was in EG9.)

BOTTLING TOMATOES

Diana has been flat out preserving tomatoes. We have so many, it's hard to know what to do with them all. By the way, although we have a bottling outfit, Diana no longer uses it. She just stews up the tomatoes, or whatever else is being preserved, and then tips them into clean, hot preserving jars and puts on the lid.

She rarely has a failure, and it is a lot easier. For one thing, you can do a couple of bottles at a time if you only have a small excess of fruit. The chooks and geese seem to enjoy tomatoes, although we have been told that, due to the acid in tomatoes, they are likely to go off the lay. I don't know if this has any basis in fact though. (Hugh — one book we have says tomatoes are a "desirable" addition to fowl's rations — Keith and Irene.)

THE A-FRAME HOUSE

We are still working on the A-frame (see An A-frame Rises, EG8), as we are a bit old-fashioned, in that we prefer to wait until we have enough cash to do a bit more work. I am at present putting in a partition wall upstairs and lining the end walls. Up till now it has just been one big room.

I wonder if we'll ever finish this house. We keep on coming up with new ideas — have now decided to build an extra room onto the side for a music room. We could also put our loom and spinning wheel there. Will make this room as far as possible from local materials.



FRIENDS OF THE EARTH have been gaining strength and support in their fight to stop Australia becoming a uranium mine and a dumping ground for radioactive wastes. The FOE journal, CHAIN REACTION, is now a regular quarterly of 50 pages, available for \$10 per year from 423 Crown Street, Surry Hills, NSW, 2010, or 51 Nicholson Street, Carlton.

ENVIRONMENT NEWS is a smaller magazine (24 pages) in the same field published by the Environment News Collective at PO Box 20, Carlton South, Vic, 3053. Annual subscription is \$5 for 10 issues.

ALTERNATIVE LIFESTYLES AND SOCIAL CHANGE FESTIVAL is to be held in Canberra from December 4 to 14, 1976. Venue is the Canberra Showground and there will be workshops, demonstrations and exchanges in every type of "alternative". NSW contact is Jane Reid, 427 Cleveland Street, Redfern (phone 69 6237 from 9 am to 3 pm).

Members of THE NATURAL HEALTH SOCIETY of Australia hope to form a Victorian branch and meetings are now being held each Wednesday evening at Elwood, Melbourne. For further information, contact Miss Wittenberg at 22 Southey Street, Elwood, telephone: 91 1974.

ECOFEST, a programme of activities on the environment, plants, birds, animals and geological features, will be held at Mr Kapatour National Park from November 6 to 9 and at the New England National Park, from April 9 to 12, 1977. Details from The University of New England's Department of Continuing Education, PO Box 591, Tamworth, NSW, 2340.

NATURAL HEALTH APPLIANCES, mentioned in EG 5, are now at PO Box 169, Maclean, NSW, 2463. They have a large range of grain grinders available by mail, including Corona, DB maize mill with metal burrs, Corona hand stone grinder, Little Ark deluxe hand

stone mill (with instructions for adding a motor if required), the Mini Mill (an electric stone mill) Spong grinders and a large mill with a 20-inch flywheel, which looks like an old time corn crusher.

Speaking of the LITTLE ARK grinders, Kevin & Bronwyn have offered a special deal for Earth Garden readers on their stone flour mill attachment which fits either the Kenwood Chef or Kenwood Major electric dough mixer. Send SAE to Australian Retsel Distributors, PO Box 712, Dandenong, Vic, 3175. They are also looking for reliable, health-minded people to demonstrate their products throughout Australia.

Dear friends,

Surprise! This issue of Earth Garden is earlier than we'd planned. From now on we are going to issue EG regularly each quarter. This means there will be four issues in 1977. The schedule is: EG17 in January, EG18 in April, EG19 in July and EG20 in October.

These will be in our regular 60-page format and will cost \$1.50 each issue at bookshops, or \$1.80 each posted. The 1977 subscription rate is \$7 for the four issues posted anywhere in Australia. Our special offer of EG1 to EG16 at \$20.50 posted still stands.

You'll see inside this issue A Lytel Herball — Part II, which contains comfrey, lavender, wormwood and yarrow. The Herball (EG15), has been our most popular issue yet. We're pleased that so many of you have enjoyed it. Our own small herb garden contains most of the herbs covered, not laid out formally, but in tangled clumps of colours — blue and white lavenders and borage nodding at each other through white and yellow chamomile and daisies. There's a lot of joy in growing herbs and in finding out about them.

Apart from that we've returned to our basic themes of putting a roof over your head and food in your stomach, with a section on small stock, pioneer pise building, food & diet articles and reports (and some advice) from people who are treading the path towards self-sufficiency.

We plan a good mixture of articles for the future, with the accent on practical tasks (like building a fence) and — yes — we will be running stories on native Australian "herbs" and useful plants. Let's hear your experiences because they can help others. We're always open to suggestions for stories, topics and sources.

Hello to the many new readers we've met through The Earth Garden Book. Quite a few people now know about us who didn't before, because the book reached lots of outlets EG doesn't get to. The EG Book is priced at \$6.95 in bookshops, or \$7.55, including postage and packing, from Earth Garden, PO Box 378, Epping, NSW, 2121. It makes a nice gift.

Looking forward to seeing you four times next year.

Peace and love,
Keith and Irene



EG5: WIND ISSUE — WIND-
MILLS, WIND PUMPS,
GENERATORS & SOURCES
RAKU POTTERY ... JUST 9
ACRES ... FEEDWELL
FOUNDRY ... THE CINVA RAM
TOOLS ... FLOWERPOTS
KEEPING FOWLS ... MOON
HAMBURGS ... THE BUSH
PLANTING ... GRAIN MILLS.

EG10: TREVOR'S GRANITE
HOUSE ... NODDY'S DOME
JARRAH SHINGLES ... MUD-
BRICKS YET AGAIN ... THE
AUTONOMOUS HOUSE ... BIO-
BAMBOO FLUTES ... GEESSE &
DYNAMICS ... FOWL ... CHIP
GUINEA ... A TANDEM ... GAS
HEATER ... SOUASH ... FULL
AGAIN ... INDEX TO OUR FIRST 9 ISSUES.

EG12: KEEPING FOOD —
DRYING ... SALTING ...
BOTTLING ... STORING ...
BEAN FEAST ... TAHU ...
WILD FOODS ... TOBACCO
DIVIDE & MULTIPLY ...
PAINLESS DIET ... PLANS FOR
A SOLAR WATER HEATER
(PART 1) ... SOLAR COOKER
BLUEPRINT ... SOLAR STILL
X-RAY DANGER ... SITTING ON
PILLOWS.

EG14: SELF-SUFFICIENT —
ROBINSON CRUSOE, THOREAU,
THE SWISS FAMILY, HELEN &
SCOTT NEARING ... THE
TRANSITION ... THE SHOCK
PLAN YOUR LIFE ...
BARTER ... GARDENS FOR ALL
BOTOBOLAR GRAPES ...
ABIGAIL'S GOATS ... BUSH
OUT OF PLACE ... SAVE A
RAIN-FOREST ... TRY MILLET
... WE BUILT IN STONE.

EG1: MOVE OUT ... BACKYARD
FARM ... KIBBUTZ & MOSHAV
FOOD CO-OP ... MONT-
SALVAT ... EARTHWORKS
COMPOST ... MULCH ...
GROW BEAN SHOOTS ... FRED
ROBINSON ... COMFREY ...
HERBS ... NO DIG.

EG6: SOLAR 1 — SCIENCE &
SUN ... SOLAR COOKER ... A
SUNDIAL ... THE LOST WORLD
CEMENT-RENDER ...
SHALOM, LAND OF PLENTY ...
CAJUN COOKIN' ... HEALTHY
HORSES ... CRYSTAL HILL
SPIRIT OF NIMBIN ... COND-
WANALAND ... JIGSAW ...
TASSAJARA BREAD.

EG11: WATER ISSUE ... FARM
DAM ... HYDRAULIC RAM ...
WATER WHEELS ... A MILLER'S
TALE ... THE SEED PRIMER ...
AT HOME IN QUEBEC ... OKRA
TOMATOES ... SOFT
TECHNOLOGY ... SOLAR
SPACE HEATERS ... START
WITH HENS ... BOX ... BEDS
... GINGER BEER ... WINE.

EG13: BUSH ISSUE — MEN
WITH AXES ... BARK HUT ...
TIM & RAYA ... ANIMAL, VEGE-
TABLE, MINSTREL ... CUR-
NOW'S FOREST ... WOOD-
CHIPS ... YOUR NATIVE
GARDEN ... FLORA & FAUNA
... WILD PLACES ... WILDLIFE
... NATIONAL PARKS ...
BUSHCRAFT ... WOOD FUEL
... STRAW & PAPER GARDEN
... SOLAR HOT WATER PLANS

EG15: A LYTEL HERBALL ...
GROWING & USING HERBS
... QUOTES & ILLUSTRATIONS
FROM THE CLASSIC
16TH & 17TH CENTURY
HERBALS (TURNER, GERARD,
PARKINSON, HYL, A
CULPEPER ETC) WITH A
MODERN COMMENTARY ON
HERBS IN AUSTRALIA (UP
NORTH & IN THE WEST), COM-
PANION HERBS ... TONIC
TEAS ... PROPAGATION ...

EG2: START A GARDEN ... THE
RODALE WAY ... NEIL
DOUGLAS ON THE ART OF
GARDENING ... FORAGING
THE GOOD LIFE ... KEYLINE
FARMS ... ORGANIC GROUPS
WHAT'S WRONG WITH
FOOD? ... HYDROPONICS.

EG7: SOLAR 2 — HOT WATER
SOLAR HEATER ... FLIGHT
FROM THE CITY ... GOOD
COMPANY ... LAND ... TITLES
MAPS ... ANGORA GOATS &
MAKE A LEATHER BAG &
BELT ... MUSHROOMS ... HAR-
START A SCHOOL ... SCHOOL
GARDENS ... NATURAL DYES
... MUDBRICKS AGAIN.

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MUDBRICK BUILDING
GEODESIC DOMES ... JEFF'S
WATERWHEEL ... BREAD
POTTERY ... SPINNING
VEGIES ... SALADS.

EG8: GAS POWER — METHANE
WATER-WASTE-FUEL-FOOD
CYCLE ... POWER FROM THE
PIG PEN ... GYPSY TRUCK
BEES, GOATS, 3/4-ACRE HAR-
CUMBUNG! HATS ... TAPERS &
MONEY FARM ... FAMILY A-FRAME
CANDLES ... SOURDOUGH CON-
SERVATION KIDS ... COUNTRY
COTTAGES & GARDENS.

EG4: BEE ISSUE — A PLEASANT
TREATISE TOUCHING ON
HISTORY, BEE-LORE, HONEY,
PRACTICAL BEEKEEPING &
SOURCES ... TASMANIA
THE TRANSITION ... BLACK
SHEEP ... TANNING ... AN-
DREW'S ... CANDLES
DONKEYS ... MORE BREAD.

EG9: GAS POWER 2 — AL-
TERNATIVES TO PETROL
LPG FUEL ... SEPTIC GAS
MARY'S PLACE ... STONE
RUBBLE BUILDING ... OATS
MACROBIOLOGICS ... DUCKS
HORSE & CART ... OLIVES
RUG FRAME ... FRUIT &
FLOWER WINES ... ORGANIC
FARMING ... MONOCULTURE
... HOW TO KILL A PIG.



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Buy Rue, Sage and Mint, a farthing a bunch!